

“A GREAT STAR FALLS”—COMETOLOGY IN SYRIAC LANGUAGE AND LITERATURE

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Abstract

The Syriac language has, among all the Aramaic varieties, by far the largest number of terms for ‘comet’ or ‘meteor’. Is there a simple explanation for this fact? The systematic investigation of Syriac technical terminology in the field of astral sciences addresses this question. Such a study also impacts three issues relevant to Semitic studies: (1) The question of the sources and languages the Syriac writers were able to access; (2) the linguistic strategies for the creation of neologisms; (3) the existence of a common Aramaic technical koiné (standard literary Aramaic). This article sets forth the terms for comets and meteors in Syriac as a representative selection of astral terminology, and investigates their value for the questions mentioned above. The two pillars of this investigation are the comparison of the literary genres in which this terminology surfaces with those of other Near Eastern literatures in which this terminology surfaces, and the linguistic analysis of these terms in Syriac.

1. Why study the Syriac terms for comets and meteors?¹

In the astrological, astronomical, and historiographical literature the terms for shooting stars abound, and the abundance is striking.² Is

¹ I want to warmly thank my colleagues at the Institute of Wissensgeschichte at the Freie Universität Berlin involved in the ERC-project ZODIAC led by Matthieu Ossendrijver for inviting me to discuss this paper within their research group. I am also grateful for the insightful suggestions by Mark Geller and Petra Schmidl, which immensely benefitted this paper.

² The difference between comets and meteors is the distance from the Earth: a comet is a solar system body which warms and releases gases in the vicinity of the sun. This becomes visible as so-called coma, and sometimes as a tail pointing away from the sun. Material from outer space (a comet, asteroid, or meteoroid) becomes a meteor as soon as it enters the atmosphere of Earth. If it burns out, it perishes as a shooting star but if it hits the surface of a planet or moon it is called a meteorite.

this variety a general development in Aramaic? Are these terms traces of an adaptation of astral lore from different languages, or are the different terms bound to specific genres of writings? Are the terms themselves loanwords, calques, and do they correspond with terms in other Aramaic varieties? Does this contribute to the hypothesis of a standard literary Aramaic unity?³ In this article I address these questions, beginning with a general introduction to the Ancient Near Eastern literary genres relevant to the topic of comets or meteors. I will also introduce the Syriac sources that touch on this topic and try to relate them to the sources previously outlined. Following this introduction, the Syriac terminology will be described and analyzed. A neat investigation of astrononyms and their distribution in Syriac texts are a desideratum and this article will at least partly provide a remedy for this shortcoming.⁴

2. ‘Cometological genres’ in the Ancient Near East

2.1 *Mesopotamia and Greece*

The two main realms where words related to comets and meteors to shine through are in texts that fall within meteorology, astronomy, or cosmology, and then within divination literature. These two genres are both known in Greek, though the divination genre clearly derives from the Babylonian tradition.

In a number of cases it is not clear whether a comet, a meteor, or a shooting star is described in the texts, therefore I will mostly offer the two options, comets and meteors, or if the description is specific enough, only one of the terms.

³ For this controversial category see below. Greenfield 1969, and Greenfield/Sokoloff who coined the term in 1989 (Jonas Greenfield, Michael Sokoloff, ‘Astrological and Related Omen Texts in Jewish Palestinian Aramaic’, *JNES* 48.3 (1989), 201–14 (212); Jonas Greenfield, ‘Standard Literary Aramaic’, in André Caquot and David Cohen (eds), *Actes du premier congrès international de linguistique sémitique et chamito-sémitique, Paris 16–19 juillet 1969* (Berlin: De Gruyter, 1974) 280–289) have been criticized for inventing an artificial category by Holger Gzella, ‘Imperial Aramaic’, in Stefan Weninger *et al.* (ed.), *The Semitic languages* (Handbooks of Linguistics and Communication Science 36, Berlin: De Gruyter, 2011), 574–86 (574).

⁴ For some preliminaries see Siam Bhayro, ‘On the Problem of Syriac “Influence” in the Transmission of Greek Science to the Arabs: The Cases of Astronomy, Philosophy, and Medicine’, *Intellectual History of the Islamicate World* 5 (2017), 211–27 (215); Stefanie Rudolf, *Syrische Astrologie und das syrische Medizinbuch* (Berlin: De Gruyter, 2018), 175–6; Emilie Villey, *Les textes astronomiques syriaques (Vie-VIIIe s.) établissement d’un corps et de critères de datation traduction et lexique* (Thesis: Université de Caen Normandie, 2013).

The core text of Greek meteorology is certainly Aristotle’s *Meteorology*⁵ where he elaborates on the variety of explanations concerning the genesis of comets. Different lists with a varying number of comets can be found in several classical authors, among them the Latin *Natural History* of Pliny the Elder (first century). The 22nd chapter of the second book of this work is dedicated to this topic and entitled “the stars which appear suddenly, or of comets (κόμη)”:

A few facts about the world remain. There are also stars that suddenly come to birth in the heaven itself; of these there are several kinds. The Greeks call them ‘comets,’ in our language ‘long-haired stars,’ because they have a blood-red shock of what looks like shaggy hair at their top. The Greeks also give the name of ‘bearded stars’ to those from whose lower part spreads a mane resembling a long beard. ‘Javelin-stars’ quiver like a dart; these are a very terrible portent. [...] The same stars when shorter and sloping to a point have been called ‘Daggers’; these are the palest of all in colour, and have a gleam like the flash of a sword, and no rays, which even the Quoit-star, which resembles its name in appearance but is in colour like amber, emits in scattered form from its edge. The ‘Tub-star’ presents the shape of a cask, with a smoky light all round it. The ‘Horned star’ has the shape of a horn [...] the ‘Torch-star’ resembles glowing torches, the ‘Horse-star horses’ manes in very rapid motion and revolving in a circle. There also occurs a shining comet whose silvery tresses glow so brightly that it is scarcely possible to look at it, and which displays within it a shape in the likeness of a man’s countenance. There also occur ‘Goat comets,’ enringed with a sort of cloud resembling tufts of hair. Once hitherto it has happened that a ‘Mane-shaped’ comet changed into a spear.⁶

This extract demonstrates that the Greeks had a rich and finely subdivided set of terms for comets and meteors. It also demonstrates their criteria of distinction: form, colour, and the course of the burn-off. The richness of detail is certainly due to the much higher degree of visibility of celestial phenomena in a time before light pollution has to a large extent concealed the night sky.⁷

Besides the scientific and phenomenological description, there are also Greek tractates describing comets and meteors as portents, such

⁵ Aristotle, *Meteorologica*. Translated by H. D. P. Lee. Loeb Classical Library 397 (Cambridge, MA: Harvard University Press, 1952).

⁶ David Eichholz *et al.* (eds), *Pliny. Natural history with an English translation by H. Rackham, vol. 1* (London: William Heinemann, 1938), 230–5.

⁷ Another reason might be the fact that the astromantic interest in these signs stimulated the diligence in their description. I owe this idea to Petra Schmidl.



Figure 1: “Form of comets according to Pliny, taken from the *Cosmographia of Hevélius*”, James Glaisher, 1877, Pl. III.⁸

⁸ Amédée Guillemin, *The World of Comets, translated and edited by James Glaisher* (London: Sampson Low et al., 1877), Pl. III.

as Aratus’ *Phaenomena* (third century BCE),⁹ Hephaestion’s *Apotelesmatica* (fifth century CE),¹⁰ or John the Lydian’s *De ostentis* (sixth century CE). Similar divination techniques are found much earlier in Mesopotamian as well as Anatolian texts.¹¹ In the Akkadian tradition, celestial signs are in general seen as omens for terrestrial events. The *Enūma Anu Enlil*, an extensive collection of around 7000 omen texts from between 1600–200 BCE,¹² bears witness to this association as the following examples show:

If a shooting star flashes (as bright) as a light or as a torch from east to west and disappears (on the horizon): the army of the enemy will be slain in its onslaught.¹³

If on the 15th day of the month of Simānu, an eclipse occurs and a great star falls, king against king will order hostility: a foreigner will seize the throne.¹⁴

⁹ <https://www.theoi.com/Text/AratusPhaenomena.html> (last accessed in June 2023)

¹⁰ In the *Apotelesmatica* 1,24, a chapter on the colours of eclipses and comets, the author describes ten comets including the sword: Δοκίς (‘plank’), Σάλπιγξ (‘war-trumpet’), Πίθος (‘large wine-jar’), Ἴππεύς (‘horseman, knight’), Ξιφίαις (‘sword fish’), Λαμπραδίας (‘kind of comet resembling a torch’), Κομήτης (‘wearing long hair’), Δισκεύς (‘kind of comet’), Τυφών (‘Typhon’), Πωγωνίας (‘bearded’). (I have added the translation of the names), for the edited text s. David Pingree (ed.), *Hephaestio Thebanus Apotelesmatica* (Leipzig: Teubner, 1973), 74–6; On Pliny’s theory of the origin of comets cf. Paul Keyser, ‘On Commentary Theory and Typology from Nechepso-Petosiris through Apuleius to Servius’, *Mnemosyne* IV, 47.5 (1994), 625–51 (642).

¹¹ Judith K. Bjorkman, ‘Meteors and Meteorites in the Ancient Near East’, *Meteoritics* 8.2 (1973), 91–132 (103).

¹² Though its forerunners date back to the eighteenth century BCE, the copies of this compilation had been drawn up between the 8th and the first century BCE, see Jeanette Fincke, ‘The Oldest Mesopotamian Astronomical Treatise: *Enūma Anu Enlil*, in ead. (ed.), *Divination as Science* (Winona Lake: Eisenbrauns, 2016), 107–46 (114; 130). Around half of the series has been made available in translation: Lunar omen tablets (tablets 1–6): Lorenzo Verderame, *Le tavole I-VI della serie astrologica Enūma Anu Enlil* (Messina Di. Sc. A.M., 2003); Lunar eclipse tablets (tablets 15–22): Francesca Rochberg-Halton, *Aspects of Babylonian Celestial Divination* (Schriftenreihe Archiv für Orientforschung. Beiheft 22, Horn: Berger, 1988); Solar omens (tablets 23–9): Wilfried-Hugo van Soldt, *Solar omens of Enūma Anu Enlil*, Leiden: Nederlands Instituut voor het Nabije Oosten, 1995); Planetary omens (tablets 50–1, 63): Erica Reiner, Hermann Hunger, *Babylonian Planetary Omens*, vol 1–2 (Malibu: Undena, 1975–1981). Erica Reiner, Hermann Hunger, *Babylonian Planetary Omens*, vol 3–4, (Groningen: STYX, 1998–2005). Weather omens (tablets 44–49): Erlend Gehlken, *Weather Omens of Enūma Anu Enlil: Thunderstorms, Wind, and Rain (Tablets 44–49)* (Leiden: Brill, 2012).

¹³ Reginald Thompson, *The Reports of the Magicians and Astrologers of Niniveh and Babylon in the British Museum*, vol. II (Luzac’s Semitic Text and Translation Series vol. VII, London: Luzac and Co., 1900), lxix; 69.

¹⁴ Virolleaud 1905, Sin 28,1, s. Bjorkman 1973, 100.

If Adad shouts furiously [...] and a / the meteorite falls towards the earth, [...] the west wind will blow for twenty-seven days, for one hundred and seven years the land will have no sovereign, the gods will establish freedom for slaves and slave girls in the lands, the incorrectly calibrated *sūtu* measure will be smashed ...¹⁵

These genres have propagated into Syriac literary production. From this production, three different genres mention comets. These are described below.

2.2 ‘Cometological’ Genres in Syriac

The literary genres that mention comets in Syriac, and with them the purpose that mention of meteors and comets serve, may be broken down into three types/kinds: 1) Cosmologies, meteorological or astronomical tractates; 2) Historiography; and 3) Prognostication or divination texts with astral or meteorological omens.

Cosmologies, meteorological or astronomical tractates

This category includes work in the tradition of Aristotle and Aristotelianism like the Syriac translation of the *Compendium of Aristotelian Philosophy* by Nicolaus Damascenus (NS),¹⁶ the *Pseudo-Aristotelian De Mundo* translated by Sergius of Resh ‘Ayna (DM) (sixth century CE),¹⁷ the *Hexaemeron* by Jacob of Edessa (seventh century CE) (J),¹⁸ or the *Butyrum sapientiae* by Bar Hebraeus (thirteenth century CE) (BH bs) and his astronomical handbook *Ascent of the Mind* (BH am).¹⁹

¹⁵ From *Enūma Anu Enlil* tablet 46, see Gehlken 2012, 87.

¹⁶ It is not clear if the translation as a whole or only parts of it goes back to Ḥunayn b. Iṣḥāq. The *terminus ante quem* is the thirteenth century based on Bar Hebraeus’ quotes from the Syriac translation in his *Candelabrum of the sanctuary and Cream of Wisdom*, see Hidemi Takahashi, ‘Syriac Version by Ḥunain (?) of Nicolaus Damascenus’ *Compendium of Aristotelian Philosophy and Accompanying Scholia*, *JCSSS* 5 (2005), 18–34. For an edition of the first five books, see Henrik J. Droossart Lulofs, *Nicolaus Damascenus on the Philosophy of Aristotle: Fragments of the First Five Books Translated from the Syriac with an Introduction and Commentary* (Leiden: Brill, 1965).

¹⁷ For an edition see Paul de Lagarde (ed.), *Analecta Syriaca* (Leipzig: Teubner, 1858), 134–58; Adam McCollum, *The Syriac De Mundo: Translation, Commentary, and Analysis of Translation Technique* (Ph.D. dissertation, Hebrew Union College Jewish Institute of Religion, Ohio, 2009).

¹⁸ Jean-Baptiste Chabot, *Iacobi Edesseni Hexaemeron, seu in opus creationis libri Septem* (CSCO 92; Script. Syr. 44, Paris: E. Typographeo Reipublicae, 1928).

¹⁹ The *Butyrum sapientiae* was edited and translated by Hidemi Takahashi, *Aristotelian Meteorology in Syriac* (Leiden: Brill, 2004); BH am, i.e. Bar Hebraeus *Ascent of the Mind* (*k. d-sullāqā hawnānāyā*) by François Nau, *Le livre de l’ascension*

The following example from the *Butyrum sapientiae* [IV. iii. 1.] discusses theories of the origin of comets:

First [theory]: The material of torches (δοκίδες) which are seen in the αἰθήρ and the rest of these things is smoke, since vapour sinks because of its weight and does not rise but grows cold before it reaches that place. The smoky exhalation, if fine, is ignited when it reaches the αἰθήρ and because of its fineness, the flame travels through it with speed. As soon as it has caught fire it is dissipated, and it seems like a star which jumps and falls from the sky. [...] If the smoke is dense, has much ὑπέκκαυμα, i.e. material, and is extensive in length and width, a large flame, like stubble in a field, is seen burning and persists for days. If it is extensive in length [only], things like torches are seen. If things like sparks, which are fine and sprout like hair from a single source, are seen, these are called ‘goats’. If there occurs something like a stream of fire, it is named δαλός.²⁰

Some commentaries on the gospels also make a case for the astronomical identification of the star of Bethlehem.²¹ Dionysios bar Šalibi (twelfth century CE) has an astonishing amount of astrological and cosmological supplementary material and argues for the literalness of the gospel’s report:

Julianos the apostate said that the story about the star is not true inasmuch as the astronomers have not mentioned it. We say against him that in this time stars had been seen on many occasions. These were called the bearded ones (*daqnanaye*), the beam-like ones (*qritanaye*), and shooting stars (*šusyane*). Therefore, it was not at all inappropriate that by the will of God a star rose beyond custom with the birth of our Saviour.²²

The commentaries are, in a strict sense, a genre of their own but are integrated into this first category as they cover the astronomical discussions of the phenomenon.²³

de l’esprit sur la forme du ciel et de la terre. Cours d’astronomie rédigé en 1279 par Grégoire Aboulfarag, dit Bar-Hebraeus, 2 parts (Paris: Librairie Émile Bouillon, 1899).

²⁰ Takahashi 2004, 189. Δαλός means ‘torch’.

²¹ For an overview of theories in the history of research see the impressive volume by Peter Barthel and George van Kooten (eds), *The Star of Betlehem and the Magi, Interdisciplinary Perspectives from Experts on the Ancient Near East, the Greco-Roman World, and Modern Astronomy* (Leiden: Brill, 2015).

²² My translation, for the Syriac text see Jaroslav Sedláček and Jean-Baptiste Chabot (eds), *Dionysii bar Šalībī commentarii in Evangelia* I,1 (CSCO 98; Leuven: Peeters, 1906), 100.

²³ Another way to explain the unusual appearance of the star was to identify it with an angel who became a star to announce the birth of Jesus (see Sedláček/Chabot 1906, 101).

Historiography

The Eastern and the Western historiographic traditions for the most part agree on Beda Venerabilis' (eighth century CE) assessment that a comet or meteor is a kind of star that announces catastrophes.²⁴ Historiographical accounts commonly mention celestial phenomena, among them meteors and comets, to signify or merely emphasize the impact of the reported events like the letters of Severus of Antioch (sixth century CE)²⁵ or as in the example below, from the Zuqnin Chronicle (eighth century CE) (ZC):

The year eight hundred and thirteen, a big earthquake occurred and Ptolemais was overthrown, Tyre and Sidon too. And also a synagogue of Jews was uprooted and collapsed. And in the same night of the earthquake, which occurred in āb (August), the twenty second of the month, on the night preceding Friday, a sign in the shape of an inflamed fire was seen in the northern side.²⁶

Whether the phenomenon is a documentary report or just a literary device, there is a core concept shared with the following category of divination literature: the meaningful synchronicity of events that take place on earth and in the sky.

²⁴ “Cometae sunt stellae flammis crinitae, repente nascentes, regni mutationem, aut pestilentiam, aut bella, vel ventos, aestusve portendentes” Charles Jones (ed.), *Beda venerabilis opera omnia, De natura rerum liber* (Corpus Christianorum Series Latina 123A; Turnhout: Brepols, 1975), 216, cf. Jean-Patrice Boudet, ‘Les comètes dans le *Centiloquium* et le *De cometis* du Pseudo-Ptolémée’, *Micrologus* XXIV (2016), 195–226: 195. Beda follows Isidor of Seville (“Cometes stella est quae uelut comas luminis ex se fundit. Hic cum nascitur, aut regni mutationem fertur ostendere aut bella et pestilentias surgere”, s. Gustav Becker (ed.), *Isidori Hispalensis De natura rerum liber* (Berlin: Weidmann, 1857), 52) who himself relies heavily on Pliny, s. Thomas Wozniak, *Naturereignisse im frühen Mittelalter* (Berlin: De Gruyter, 2020), 94.

²⁵ S. Ernest W. Brooks (ed.), *The Sixth Book of the Select Letters of Severus Patriarch of Antioch in the Syriac Version of Athanasius of Nisibis*, 2 vols. (London: Williams & Norgate, 1903–4).

²⁶ Translation from Vat. Sir. 162, fol. 87v, s. Hisashi Hayakawa *et al.*, ‘The earliest drawings of datable auroras and a two-tail comet from the Syriac Chronicle of Zūqnīn’, in *Publications of the Astronomical Society of Japan* 69.2 (2017), 17 (1–15): 17 (11). This article quotes a number of examples. Another example can be found in the *Acts of the Miaphysites*, s. Ernest W. Brooks (ed.), *Vitae virorum apud Monoophysitas celebrorum. Pars prima* (CSCO 7-8 Syr. III.25 (7), Paris: E Typographeo Reipublicae, 1907), 86.

Prognostication or divination texts with astral or meteorological omens

Here divination is based either on the direction of the shooting stars’ trajectory, its shape or its colour (unlike the Babylonians the Syriac diviners had no interest in the sound of these phenomena). Prognoses like these are found in the second part of the *Syriac Book of Medicines* (*SBM*), a medical handbook with passages on astrology, cosmology and divination (compiled around the twelfth century CE but containing much older sources), in the Syriac translation of the Pseudo-Ptolemaic *Centiloquium* (*CL*), an astrometeorological and divinatory collection quoted by Bar Hebraeus²⁷ and in anonymous tractates, mostly fragments interspersed with other kinds of divination, astrological, and not rarely medical material. The example from the *SBM* opens with an introduction of different ‘names’ for the same phenomenon accompanied by a rare illustration of the three types.

On the stars with tails. Their names are: Qarita, Buba, Laketa. Omina derived from these stars:

The star with a tail indicates famine and pestilence. The star with a spear indicates war and strife. The star with a beard indicates a change of government and its downfall. And know that in that quarter of the earth to which the tail of the star is directed there will be anger, and that which is to be will be.²⁸

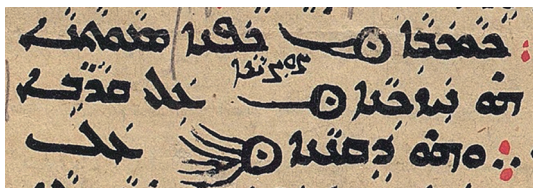


Figure 2: Depiction of comets in the Syriac Book of Medicines (British Library MS 9360, fol. 260a.)

The Syriac genres conveying details about meteors, comets, and shooting stars more or less agree with the ones found in surrounding cultures, an Aristotelian strand and a Mesopotamian (divination) strand. The only exception is the discussion of the star of Bethlehem (Matt. 2:9) in bible commentaries which in a strict sense follows both: the Aristotelian description in the discussion of the phenomenon and the symbolism of a celestial portent as astrological entity.

²⁷ S. Nau 1931–2:198.

²⁸ Ernest Wallace Budge, *The Syriac Book of Medicines*, vol. 2 (London: Oxford University Press, 1913), 550; British Library MS 9360, fol. 260a.

2.3 *Transmission of astral lore and ‘virtual translations’*

The omnipresence of astral divination texts in the Ancient Near East and later literatures was addressed in 1911 by Bezold/Boll²⁹: they had the early editions of the *Enūma Anu Enlil* (by Virolleaud 1908–10, and Thompson 1900) at hand, which they compared with *De ostentis* by John the Lydian. Common traits are not only the interpreted signs (thunder, lightning, the appearance of the moon, etc.) but also forecasted events like the death of people, fall of or revolt against the king, revolt of slaves against their masters, the threat of approaching enemies (*tīb nakri*), droughts, locust infestation, storms, etc.

The Greek and Babylonian texts share to a large extent their terminology (‘horns of the moon’) and syntax (apodosis-protasis structure). Comparing these texts seems to leave no doubt of a common origin.

Despite these compelling commonalities the sources do not attest the pathways of their transmission and translation, in written form or orally. Nevertheless, the interrelation was occasionally raised by other scholars. Pingree, in 1998 noted that ‘a large body of astral omen literature descends from this material [Akkadian texts], in Greek and Latin as well as in Aramaic, Hebrew, Syriac, Arabic, and Persian.’³⁰ Pingree even showed the dissemination of astral divination material as far away as India where around fifty omens are attested in the third century BCE.³¹

The problem is that there is no single text that shows a verbatim agreement and thus testifies to a direct translation,³² wherefore one can only speak of ‘virtual translations of both *Enūma Anu Enlil* and *Iqqur ipuš*.’³³ But how might this material have traversed the linguistic barriers?

²⁹ Carl Bezold, Franz Boll, *Reflexe astrologischer Keilinschriften bei griechischen Schriftstellern* (Sitzungsberichte der Heidelberger Akademie der Wissenschaften, phil.-hist. Klasse, 7, Heidelberg: Winter, 1911).

³⁰ David Pingree, ‘Legacies in Astronomy and Celestial Omens’, in Stéphanie Dalley (ed.), *The Legacy of Mesopotamia* (Oxford: Oxford University Press, 1998), 125–37 (133).

³¹ Cf. David Brown, *Mesopotamian Planetary Astronomy-Astrology* (Cuneiform Monographs 18, Leiden: Brill, 2000).

³² This was challenged by JoAnn Scurlock, ‘Sorcery in the Stars: STTT 300, BRM 4.19–20 and the Mandaic Book of the Zodiac’, *ARAM* 11–2 (1999–2000), 237–47; Christa Müller-Kessler, ‘Aramäische Beschwörungen und astronomische Omina in nachbabylonischer Zeit: Das Fortleben mesopotamischer Kultur im Vorderen Orient’, in Johannes Renger (ed.), *Babylon: Focus mesopotamischer Geschichte, Wiege früher Gelehrsamkeit, Mythos in der Moderne: 2. Internationales Colloquium der Deutschen Orient-Gesellschaft 24.–26. März 1998 in Berlin* (CDOG 2; Saarbrücken: Saarbrücker Druckerei Verlag 1999), 435–38.

³³ Abraham Winitzer, ‘The Reversal of Fortune Theme in Esther: Israelite Historiography in Its Ancient Near Eastern Context’, *Journal of Ancient Near Eastern*

A transmission via Aramaic, which was the lingua franca in the Achaemenid Empire and had an enormous outreach, is a very attractive candidate. It is supported by the overlap of Akkadian cuneiform writing and spoken Aramaic in Mesopotamia (like Hatran Aramaic, from third century BCE to third century CE in Northern Iraq which was heavily influenced by Akkadian).³⁴ Likewise, an Aramaic mediation of the Mesopotamian material to India/Sanskrit would not be improbable.³⁵

Greenfield/Sokoloff in 1989, and later Rochberg in 1999–2000, opted for a scenario with a broad Aramaic reception of these texts which later showed up in collections like the Syriac *SBM* or the Mandaic *Asfar Malwashia* (the book of the stars/zodiac). The hypothesis of a common Aramaic literary standard language raised by Greenfield/Sokoloff in 1989 was actually tailored with the cloth of divination language, but as long as there is no evidence for direct transmission, a secondary way from Akkadian/Aramaic to Greek and then to Syriac can never be ruled out.³⁶ And even with a piece of evidence at hand it would be still much more plausible to assume more

Religions 11 (2011), 170–218(194); Francesca Rochberg, ‘The Babylonian Origins of the Mandaean Book of the Zodiac’, *ARAM* 11–2 (1999–2000), 237–47.

³⁴ For ‘Jewish appropriation of the Aramaic version of Babylonian scholarship’ see Henryk Drawnel, ‘Between Akkadian “Ṭupšarūtu” and Aramaic פסר: Some Notes on the Social Context of the Early Enochic Literature’, *Revue de Qumrān* 24,3 (2010), 373–403 (373).

³⁵ The intertextuality of the Mesopotamian and Indian omen series is undoubted by David Pingree. He compares the Akkadian *Ālu ina mēlē šakin* and the *Enūma Anu Enlil* with the omens of the Pāli *Brahmajāla Sutta* from the early centuries BCE, and the Indian omens to Venus in the Sanskrit *Gārgīyayotīṣa*. His suggestion is an intellectual exchange following the land conquest when the Achaemenids controlled Gandhāra in Northwestern India and the Indus Valley between 538–331 BCE. Zysk expands the potential timeframe of contact to the Parthian time (150–270 CE), see David Pingree, ‘Mesopotamian Omens in Sanskrit’, in Dominique Charpin and Frances Joannès (eds), *La circulation des biens, des personnes, et des idées dans la proche-orient ancien* (Paris: Éditions Recherche sur les civilisations, 1992), 375–379: 376; Kenneth Zysk, ‘Mesopotamian and Indian physiognomy’, in Cale Johnson, Alessandro Stavru (eds), *Visualising the invisible with the human body* (Science, Technology, and Medicine in Ancient Cultures, vol. 10, Berlin: De Gruyter 2020), 41–60 (58). The Aramaic outreach to North-India can also be seen in the famous Ashoka (or Laghman) inscription from around 260 BCE.

³⁶ Therefore projects like the one run by Gideon Bohak ‘The Jewish Library in Late Antiquity: Forgotten Texts and Non-Rabbinic Jews’ at Tel Aviv University will be of utmost importance for these questions, cf. Gideon Bohak and Mark Geller, ‘Babylonian Astrology in the Cairo Genizah,’ in Ra’anana S. Boustani *et al.* (eds), *Envisioning Judaism: Studies in Honor of Peter Schäfer on the Occasion of his Seventieth Birthday*, vol. 1 (Tübingen: Mohr Siebeck, 2013), 607–22; Gideon Bohak, ‘A

complex and diverse ways of transmission.³⁷ The following overview tests the Syriac lexicon as a potential source for identifying mechanisms of borrowing.

3. Syriac Terminology³⁸

	Syriac term	reference	translation	comment
1	<i>ziqa</i>	BB	‘comet, meteor’	Bar Bahlūl defines it as “a star which departs” ³⁹
2	<i>šabuqe</i>	BH bs, NS ⁴⁰	‘shoots’	
3	<i>šaware</i>	BH bs, NS ⁴¹	‘jumpers, jumping stars’	
4	<i>gērē</i>	BH am ⁴²	‘arrows’	
5	<i>amquyata</i>	Dm ⁴³	‘fiery meteor’	Only in in the translation of <i>De mundo</i> . Its literal meaning is ‘pits, grooves’ rendering βόθρονος ‘fiery meteor in the form of a pit’ ⁴⁴

Palestinian-Jewish Aramaic Planetary Horologion from the Cairo Genizah,’ *Aleoh: Historical Studies in Science & Judaism* 18 (2018), 7–26.

³⁷ Recently, Adrian Pirtea has even found a Sogdian omen text (forthcoming).

³⁸ This is not a complete list of attestations, but rather a rough overview. The abbreviations are given above, additional references are made to Ephrem (E) and Bar Bahlūl (BB), s. Rubens Duval (ed.), *Lexicon syriacum auctore Hassano Bar Bahlule, voces syriacas graecasque cum glossis syriacis et arabicis complectens* (Paris: Leroux, 1888–1901).

³⁹ Duval 1901, 687. *Ziqa* also denotes a type of wind or a type of rain in *De mundo*, see Takahashi 2004, 526.

⁴⁰ BH bs Met. II.i.1, NS 46,18, see Takahashi 2004, 446.

⁴¹ BH bs Met. IV.iii.4, NS 12,24, see Takahashi 2004, 548; is there any connection with the ‘jumping star’ (GU₄.UD) – usually identified with mercury? The verb *šahāṭu* ‘to jump, leap, jump up’ is used more generally in the context of ‘stars and planets’ as well, s. C. Jay Crisostomo, ‘Sumerian Divination’, in C. Jay Crisostomo et al. (eds.), *The Scaffolding of our Thoughts. Essays on Assyriology and the History of Science in Honor of Francesca Rochberg* (Leiden: Brill, 2018) 148–68 (154); Ignace Gelb et al. (eds), *The Assyrian Dictionary of the University of Chicago*, Vol. 17: Š, part 1 (Chicago et al.: The Oriental Institute, 1989), 91. One might add that the verb *šwar* ‘to jump’ is used in the description of the movement of shooting stars in Syriac and in Mandaic (AM 231:14).

⁴² BH am 14.21.

⁴³ De Lagarde 1858, 138(4).

⁴⁴ S. Perseus: Charlton T. Lewis, Charles Short, *A Latin Dictionary* (Oxford: Clarendon Press, 1879) (<http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.04.0059%3Aalphabetic+letter%3DB%3Aentry+group%3D17%3Aentry%3Dbothynus>, last accessed June 2023)

	Syriac term	reference	translation	comment
6	<i>dogis</i> < <i>dwoqydus</i> > (pl. <i>doqidē</i> , <i>doqidēs</i>)	J, BH bs, NS ⁴⁵	‘fiery meteor’	< Greek <i>δοκίς</i> , <i>δοκίδος</i> . The Greek word is a diminutive of <i>δοκός</i> ‘beam’, ⁴⁶ which refers to the shape of this celestial body ⁴⁷
7	<i>qarita</i>	J ⁴⁸	‘beam’	Usually this term only denotes ‘beam’ and is therefore a loan-translation of the Greek <i>δοκίς</i> , s. (6).
7’	<i>qritanay</i>	DbṢ	‘beam-like’	adjective form of the above mentioned <i>qarita</i> ⁴⁹
8	<i>pogonē</i>	J ⁵⁰	‘bearded stars’	< Greek <i>πώγων</i> ‘beard; tail of fire’
9	<i>daqnana</i>	SBM; DbṢ	‘bearded’	Loan translation of (8) ⁵¹
10	<i>qomiṭa</i>	Dm, J, BB	‘(long-haired) star’	< Greek <i>κομήτης</i> Bar Bahlūl explains the word in his dictionary with the common word for ‘comet’ in Syriac (12) ⁵²
11	<i>kawkba</i> <i>d-ṣuṣyata</i>	E, SBM	‘star of fringes’	Most widespread term for shooting star in Syriac. The adjective is derived from the noun <i>ṣuṣita</i> ‘fringes, curl, lock of hair; vine leaves’ ⁵³

⁴⁵ Chabot, 1928, 146.

⁴⁶ As kind of meteor in Pliny, *Natural History* 2, 96.

⁴⁷ Bar Hebraeus defines them as ‘lamps seen in the aether’ (BH bs Met IV.iii.1:1 *dokides awkit lampide d-methezyan ba-btir*), Takahashi, 2004, 188–9. The four theories, BH explains in this passage are mostly taken from Ibn Sīna’s *K. al-Šifā’*, but the first is from the Syriac version of the Aristotelian compendium NS.

⁴⁸ Chabot, 1928, 146.

⁴⁹ Is the unsecure *qrintia* a slip of the pen for *qarita*? Michael Sokoloff, *A Syriac Lexicon* (Winona Lake: Eisenbrauns/ Piscataway: Gorgias Press, 2009), 1409 refers to “perh. <Greek *κρίνιτης*” which does not exist in Greek. Mandaic *qarnia* also takes on the meaning ‘beams’, s. Charles G. Häberl, *Hebraisms in Mandaic*, pp. 26–49 (36) in *Linguistic and Philological Studies of the Hebrew Bible and its Manuscripts in honor of Gary A. Rendsburg*, ed. Vincent D. Beiler and Aaron D. Rubin (*Studia Semitica Neerlandica*; Leiden: Brill, 2023).

⁵⁰ Chabot, 1928, 146.

⁵¹ Budge, 1913, vol. 1, 550; Sedláček/Chabot, 1906, 100.

⁵² Rubens Duval, *Lexicon Syriacum*, vol. 2 (Paris: Leroux, 1901), vol. 2: 1734. The lexem further appears in the Pseudo-Aristotelian *De Mundo* 138.4 (sixth century CE) and in the *Catena* by Severus of Antioch (seventh–eighth century CE).

⁵³ This is conditioned by? the Greek word *kómē* meaning ‘hair; leaves’ (cf. 10)

	Syriac term	reference	translation	comment
11'	<i>kawkba</i> <i>šusyana</i>	BB, BH bs ⁵⁴	‘hairy star’	Variation of (11) which replaces the genitive by an adjective
12	<i>butinu</i>	in a translation of a homily by Basil ⁵⁵		< Greek βόθυνος, s. (5)
13	<i>šabte</i>	BH bs, Dm ⁵⁶	‘comets’	Calque of Greek ῥάβδος ‘rod’ in <i>De mundo</i> ⁵⁷
14	<i>qontare</i>	E, J, CL, BH	‘spears’	< Greek κοντάριον ‘little spear’ ⁵⁸
15	<i>nayzka</i>	DM, BH bs ⁵⁹	‘spear; falling star’	Loanword from Iranian: OP * <i>naizaka-</i> , MP <i>nēzag</i> ‘lance’ ⁶⁰
15'	<i>nizkana</i>	SBM ⁶¹	‘spear; meteor’	
16	<i>maknishyata</i>	E, J, ZC ⁶²	‘brooms’	Astonishingly, this term has a parallel in a Chinese historiography. The evidence of the Chinese expression is much older, and therefore the direction of transmission seems clear ⁶³

⁵⁴ BB 874,8, BH bs I.iii.6; IV.iii.3, s. Takahashi, 148–9, 190–1.

⁵⁵ Attested ‘in *homilia S. Basilii de Incarnatione*’, see Robert Payne Smith, *The-saurus Syriacus* (Oxford: Clarendon Press, 1979), 500, cf. id. 850. I was not able to trace this attestation.

⁵⁶ BH bs Met. II,I, Dm 144.24.

⁵⁷ The Greek word is used by Aristotle (Met 377a,30) as ‘streak of light’.

⁵⁸ S. Giuseppe Simone Assemani (ed.), *Ephraem Syri Opera omnia*, vol. 1 (Rom: Typographia Vaticana, 1737), 125:37.

⁵⁹ In DM 138.3 as translation for Greek δοκίς; BH bs Met. II, i,1, s. Takahashi, 2004, 446.

⁶⁰ Claudia Ciancaglini, *Iranian Loanwords in Syriac* (Wiesbaden: Dr. Ludwig Reichert Verlag, 2008), 214.

⁶¹ Budge, 1913, vol. 1, 550:19.

⁶² Chabot, 1928, 146.

⁶³ It refers to the comet of the year 768, as Villey was able to show. She claims that not only a loan translation of the term ‘broom’ took place, but that also the Chinese conception of a threefold order of comets was adopted and used by Jacob of Edessa, see Émilie Villey, ‘Comètes en forme de balai: cas d’influence culturelle chinoise sur des syriaques orthodoxes au 8^e s. AD’, in S. Brelaud *et al.* (eds), *Le calame et le ciseau. Colophons syriaques offerts à Françoise Briquel Chatonnet* (Paris: Geuthner, 2021), 469–90: 477. For a comparison one should not forget Ptolemy’s tripartite scheme distinguishing the shapes of comets: Δοκίδες ‘beams’, Σάλπιγγες ‘trumpets’, and Πίθουι ‘jars’, s. Frank E. Robbins (ed.), *Claudius Ptolemy, Tetrabiblos* (Cambridge:

	Syriac term	reference	translation	comment
17	<i>buba</i>	SBM ⁶⁴		< Akk. <i>bibbu</i> ⁶⁵
18	<i>laketa</i>	SBM ⁶⁶		Of unknown origin ⁶⁷
19	<i>kawkbe</i> <i>d-raḥṭin</i>	NS ⁶⁸	‘running stars’	Of Akkadian origin? ⁶⁹

Harvard University Press, 1948), 195. Jacob of Edessa, in his *Hexaemeron*, lists this term among the Greek terms: ‘[There are] other [signs] in the dome of the sky that are called meteors (*qontare*), brooms (*mkanshyata*), beams (*qaryata*), comets (*qomiṭe*), bearded stars (*pogone*), and meteors (*doqide*) as they are called by Greek custom.’ Jacob’s list of comets’ names quoted in the *Commentary of the Monk Severus* is shorter: *qontare wa- mkanshyata ba-dmut šusyata* ‘spears and comets in the form of sparks, (Sokoloff, 2009, 1336), see Benedictus, 1732, 125. In this instance, Jacob had another Greek text on comets at his hands. The exact same list is found in (and quoted by) Moses bar Kepha in his *Hexaemeron*, see Villey, 2021, 474.

⁶⁴ Budge, 1913, vol. 1, 550.

⁶⁵ Villey, 2021 suggested a Sanskrit origin, namely *bubma*, the name of a comet (S. Shaktidhara Sharma, ‘Periodic Nature of Cometary Motion as known to Indian Astronomers before eleventh century AD’, *International Astronomical Union Colloquium* 91 (1987), 109–12 (109); Cf. Villey, 2021, 471.) Phonetically closer to the Sanskrit word is the Akkadian *bibbu* with the meaning ‘wild sheep; planet, star, comet’. This word only occurs in astrological or omen texts, not in astronomical texts, see Ignace Gelb *et al.* (eds), *The Assyrian Dictionary of the University of Chicago*, Vol. 2: B (Chicago: The Oriental Institute, 1965), 217–19. The 56th tablet of *Enūma Anu Enlil* exclusively deals with ‘various features of the *bibbu*’ for example, ‘If a *bibbu* is seen together with Venus, there will be death in the country’ (**bibbu u^kDIL-PÁT it-tin-tu-ú mītūti^{mes} ina maāti ibaššu^{mes}*) or ‘if a *bibbu* approaches the Goat Star’ (*šumma MUL bi-ib-bu ana MUL.ÛZ [iḥi]*), see René Largetment, ‘Contribution à l’étude des astres errants dans l’astrologie chaldéenne’, *Zeitschrift für Assyriologie* 52 (1957), 235–64: 252. In Akkadian, the main term is *kakkabu*, mostly with further specification. Alternative names are *kakkabu rabū* ‘great star’, sometimes *šallumū* ‘comet’, likened from time to time to a *dipāru* ‘torch’. As important objects of divination the Assyrians and Babylonians were mostly interested in the trajectory of comets and meteors, as well as their brightness, and sound. See H. Hunger, ‘Meteor’, in D. O. Edzard (ed.), *Reallexikon der Assyriologie und der Vorderasiatischen Archäologie*, vol. 8 (Berlin/New York: Walter de Gruyter, 1993), 147–8; Bjorkman, 1973, 92, 110, 123.

⁶⁶ Budge, 1913, vol. 1, 550.

⁶⁷ It could derive from Sanskrit *calaketu* (S. Sharma, 1987, 110), another option would be Akkadian *alaktu* ‘gait, path’ with some phonological changes. S. Ignace Gelb *et al.* (eds), *The Assyrian Dictionary of the University of Chicago*, Vol. 1: A, part 1 (Chicago: The Oriental Institute, 1964), 297. There are omens from the EAE comparing the falling comet with the shape of different objects, among them a road (*tallaktu*): ‘If a star turns into a road’, see Jeanette Fincke, “‘If a star changes into ashes ...’ A sequence of unusual celestial omens”, *Iraq* 75 (2013), 171–96: 189.

⁶⁸ NS 12,24, see Takahashi, 2004, 548.

⁶⁹ The Akkadian association of a comet going or running through the sky could be the forerunner of this expression. A Neobabylonian letter says: ‘we will observe and report to our king how many fingers it (the star) advances per day (*ammar ubāni*

	Syriac term	reference	translation	comment
20	<i>kawkba</i> <i>d-kašēṭ</i> <i>ba-šmaya</i>	SBM ⁷⁰	‘star which shoots/flies in the sky’	
21	<i>kawkbe</i> <i>d-saṭen</i>	SBM ⁷¹	‘deviating stars’	
22	<i>kawkba</i> <i>d-meṣtre</i>	SBM ⁷²	‘breaking star’	

Table 1: Syriac terminology

The names illustrate different forms and behaviors of meteors. In general, it is not surprising that the Syriac terminology is by and large dependent on Greek expressions (9 of 21 expressions are Greek loanwords or calques). Where Greek terminology surfaces it is often but not exclusively in the context of direct translations (like Nicolaus Damascenus or *De Mundo*). Remarkable is the term ‘broom’ with its Chinese equivalent. It is not clear whether the periphrastic constructions (from 19-22) belong to the terminology in the narrower sense. The genre of divination literature in Syriac seems to be more or less devoid of Greek terminology (which is not the case for the names of planets!).

3.1 Comparison with other Aramaic varieties

When one looks at the expressions in the surrounding Aramaic varieties there is only one common term, namely *ziqa*, s. (2), also attested in Qumran (4Q246) and Talmudic Aramaic (Y. Ber. IX, 13c). The other Talmud Aramaic term *kokba da-šbiṭ* (Ber. 58b) is likely a calque of the Greek ῥάβδος ‘rod’, s. (13). It is more plausible that both, the Talmudic and the Syriac word, go back to a Greek source.

In Mandaic there are four terms for shooting stars. The first one, *kukbia šaria* with the variant *kukbia d-šarin* (AM 231,13; 275,1) is derived from the root ṢRY ‘to cut, to split off, cleave, tear about’ (Gy 392,11,23).⁷³ This is the corresponding form of (21) in Syriac

ša ūme il-lak), see Robert F. Harper, *Assyrian and Babylonian letters belonging to the Kouyoujik collection of the British Museum* (London/Chicago: University of Chicago Press, 1893), 79.8.

⁷⁰ Ns 12,24; Budge, 1913, vol. 1, 552.

⁷¹ Budge, 1913, vol. 1, 551.

⁷² Budge, 1913, vol. 1, 550.

⁷³ In Mandaic the *mediae geminatae* and the *tertia infirmae* verbs collapsed at some point, which means that ṢRY and ṢRR became homophones. Interestingly,

and a very clear designation of a meteorite, which also holds true for the expression *piqia* ‘splits’ (AM 281, 9) from the root PQA (syr. *pqa* ‘split’).

The idea of a ‘hairy star’ (as in example 11) is found in Mandaic as well. A spell painting the unleashing of demonic powers (and their taming) has the expression *mašria sara l-kukbia* (DC 25, 14 f.) ‘they loosen the hair of the stars’ (of flying stars, comets).⁷⁴

Another expression *kukab danab* ‘star with tail’ (AM 276:32) is undoubtedly borrowed from Arabic. It appears side by side with the variant *kukab abu danab* in a passage that shows traces of a translation from Arabic. This is one of the cases that perfectly explicates the multiplicate travel routes of divination texts.

The shortage of terminology compared to Syriac is remarkable. It is best explicable with the exposure of Syriac scholars to the Greek (and Akkadian?) tradition of shooting star texts.

4. Conclusion

In general, the Syriac texts are not interested in a systematic description of shooting stars, although some of the names vividly picture their appearances.

The terminology bears witnesses to centuries of contact and knowledge exchange resulting in 21 lexical items for describing shooting stars. These layers are Greek, Iranian, Chinese, and Akkadian. Some of the Syriac terms have interrelations with Babylonian Aramaic and Mandaic terms. At least part of the common vocabulary might have a background in the Mesopotamian divination literature – as calques

in Akkadian the verb *šarāru* describes the ‘flashing’ of comets/meteors, but only in the texts from the court astromancers (e.g. (*kīma šēti namir ina ša-ra-ri-šu kīma nammašti zuqaqīpi zibbata šakin* ‘if a shooting star flashes and its flashing is as bright as daylight, and it has a tail like the scorpion (i.e.) the animal (not the constellation) while it is falling’, see Ignace Gelb *et al.* (eds), *The Assyrian Dictionary of the University of Chicago*, Vol. 16: Š (Chicago: The Oriental Institute, 1962) 107, whereas the *Enūma Anu Enlil* uses the verb *maqātu* ‘to fall’ without specifying the direction of the fall, see Bjorkman, 1973, 100.

⁷⁴ This laconic description as ‘star’ is paralleled by the Akkadian *kakkabu* may refer to ‘anything from a tiny shooting star to a large, noisy bolide’ (Bjorkman, 1973, 92, 110).

Another solution is the linkage with the original meaning of the verb ‘giving sound’—as we have seen above this was a crucial characteristic in Akkadian shooting star divinations. One example from *Enūma Anu Enlil*: ‘If a star flashes from the north to the west during daylight and it produces a noise (heard) over the countryside and falls into a camp and the whole land sees it’ (Bjorkman, 1973, 97).

etc. This article shows that the term *bubu* goes back to Akkadian *bibbu* being so far the only ‘literal’ link. Noteworthy is the fact that this term surfaces in the Akkadian corpus of divination literature as well as in a Syriac collection of divination literature. This invites new thoughts and studies on the nature and form of transmission of sciences and spheres of knowledge. When it comes to the question of a shared Standard Literary Aramaic vocabulary, the pickings are meagre with a single common term (*ziqa*). The Syriac ‘cometological’ vocabulary is, besides the Arabic, by far the most developed compared to the surrounding Aramaic varieties and Semitic languages. This may imply the importance of celestial phenomena for the Syriac epistemic space which may have become obscured over time like the visibility of the night sky. It certainly underlines the receptivity of the Syriac language and the broad interconnectedness with former, overlaying, and adjacent cultures.

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