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Science in Qumran Aramaic Texts by Ida Fröhlich

Ancient Cultures of Sciences and Knowledge 1. Tübingen: Mohr Siebeck, 2022. Pp. xii + 262. ISBN 978–3–16–161387–6/eISBN 978–3–16–161388–3. Paper/eBook €99.00

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Science in Qumran Aramaic Texts primarily explores the astronomical, demonological, divinatory, and medical imaginations of the Aramaic texts found at Khirbet Qumran (e.g., 4Q242, 4Q208–209, and 4Q560), in the Hebrew Bible (Daniel 5), and in Ge'ez translations (e.g., the *Book of the Watchers* and the *Astronomical Book* of 1 Enoch). If there is a core argument to the volume, it is that these understudied and fragmentary Aramaic texts must be analyzed on their own terms as witnesses to a distinct scientific tradition. They must not be thoughtlessly lumped together with the Hebrew, often sectarian texts also found at Khirbet Qumran: the Aramaic texts represent their own literary tradition. Nor must they be subordinated to Mesopotamian scientific traditions: the Aramaic texts represent a scientific imagination that, although influenced by Mesopotamia, produced its own innovations.

Released in 2022, *Science in Qumran Aramaic Texts* is the first volume in the new (indeed, the second volume was only released this year) series Ancient Cultures of Sciences and Knowledge. A glance at the editorial and advisory boards will reveal that the series intends to move beyond more technical histories of science to incorporate social and religious contexts. For example, Paul J. Kosmin (Department of Classics, Harvard) is a historian who has emphasized the social (especially imperial) contexts of spatial and temporal ideology in the Seleucid empire. Jacqueline Vayntrub (Hebrew Bible, Yale Divinity School), in turn, has worked extensively on ancient Israelite poetry and transmission of knowledge. This more elastic approach to methodology and content can be detected in several of the contributions, such as Amar Annus' chapter, which partly explores the social (i.e., priestly) ramifications of divine doubles, and Jonathan Ben-Dov's chapter, which critiques current trends in comparative work.

There are 11 distinct chapters (plus the introductory chapter by Ida Fröhlich, the editor), two of which are coauthored. Although entirely in English, the

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contributions are relatively international in scope, with authors hailing from Brazil, Israel, the United Kingdom, North America, and Eastern Europe. Most comparative work is undertaken with Mesopotamian texts, and Assyriologists will find familiar territory throughout. Classicists without some background in the Hebrew Bible or ancient Judaism will find fewer entry points, although Geller's chapter includes Greek medical texts and Dávid's chapter concludes with a call for comparisons of Greek and Latin travel literature. Several chapters, such as Jacobus' on 4Q208–209, include extremely technical discussions, which could be daunting to those without sufficient background in ancient astronomy but which will nevertheless be warmly received by historians of science. Such historians may initially find several chapters to be less relevant to the history of science (e.g., those on questions of composition or interpretation primarily of interest to philologists). However, Ida Fröhlich's introductory chapter helpfully situates the volume and Qumran itself within the wider traditions of the history of science. Do take note, though, that the science in question is primarily astronomical (although there are some treatments of ancient medical discourses).

In "'Secular Science' in Mesopotamia", Markham J. Geller argues that a burgeoning scientific (i.e., clockwork) understanding of the cosmos, thanks to advances in astronomical techniques in Mesopotamia, loosened religious interpretations of planetary phenomena, a shift that also occurred in medical practice. Classicists may be intrigued by Geller's argument that this same tension between science and religion may be found in Greek sources. Historians of science may be especially interested in how Geller also rescues astral medicine by demonstrating its inherent logic and arguing that technical explanations began to replace divine ones.

In "'The Script of God'—Daniel 5:25 in the Light of Mesopotamian Omen Literature", Réka Esztári and Ádám Vér argue that the "writing on the wall" scene in Daniel 5 represents an erudite reception of cuneiform learning. The authors argue that « mene, mene, tekel, upharsin » is a nuanced Aramaic back-translation of a cuneiform apodosis involving the overthrow of a king. Biblical scholars will, of course, be especially interested in the authors' ingenious interpretation of the passage, but the chapter also represents just how embedded the authors of the biblical text were in Mesopotamian scholarship. Assyriologists (not to mention those with linguistic interests more broadly) may be especially interested in how Esztári and Vér use Daniel 5 to uncover the reception of cuneiform script's polyvalency in noncuneiform languages.

In "Symptoms and Symbols, Prayers and Portents: Diagnostic Physiognomy and the Diviner in the Aramaic Prayer of Nabonidus (4Q242)", Andrew

B. Perrin posits that the unnamed *gzr* in the aforementioned prayer is a nameless Judaean diviner—not Daniel. Perrin does not argue that Nabonidus' condition is subject to physiognomy. Rather, his skin condition functions as an omen that must be interpreted to determine which deity is actually the responsible one. Scholars of medical history may be fascinated by how 4Q242 categorizes diseases and their diagnoses, particularly their intersections with divination. Biblical scholars will be especially interested in Perrin's stance of not identifying the *gzr* with Daniel.

In "The Heavenly Counterparts of Adapa and Enoch in Babylonia and Israel", Amar Annus demonstrates that in some traditions

(1) Oannes/Adapa actually remained in heaven, and
(2) the Oannes/Adapa figure had a mirror image in heaven (which was then extended to the priestly class).

Annus then places the heavenly Oannes into conversation with the heavenly form of Enoch and the "divine double" scholarship of Andrei Orlov. Scholars of Second Temple Judaism will be especially intrigued by the existence of divine doubles before Enoch. What some readers could find challenging, though, is Annus' pivot to a discussion of psychology, out-of-body phenomena, and ecstatic experiences in relation to divine doubles. Nevertheless, Assyriologists and biblical scholars alike will be provoked into fruitful discussion by this chapter and Annus' fascinating analysis of less well-known but highly valuable texts.

In "How 4QAstronomical Enoch^{a-b} (4Q208–209) Transformed Elements of Late Babylonian Magical Hemerological Texts into a Synchronistic Calendar", Helen R. Jacobus explores hemerological tablet BRM IV, no. 19, which is from Uruk and dates from the Persian or Hellenistic period, demonstrating how 4Q208–209 adopts features of the micro-zodiac. This is a deeply technical discussion that historians of astronomy and calendars would find most useful and could be a bit daunting to nonspecialists. But from a wider perspective, Jacobus masterfully demonstrates just how embedded the authors of these Aramaic texts were in Mesopotamian scholastic traditions.

In "Jewish Aramaic Science and Mythology: Babylonian or Levantine Heritage?" Jonathan Ben-Dov pushes back against the Mesopotamia-centric comparative approach. Ben-Dov demonstrates that the "comparison game" can be played between the *Book of the Watchers* and a Levantine Philo of Byblos just as fruitfully as with Mesopotamian sources. Some readers may be perturbed by this use of Philo of Byblos (although Ben-Dov acknowledges the transmission difficulties). However, drawing upon material evidence from Maresha, Ben-Dov demonstrates how Mesopotamian knowledge may have filtered in alongside local developments. In particular, Ben-Dov suggests that

the heavenly gates of 1 Enoch—not found in Babylonian texts—are such a Levantine development. Scholars of Second Temple Judaism will do well to consider Ben-Dov's arguments, especially the appeal to material culture.

In "Writing Science, Writing Magic: Possible Functions for the Act of Writing. Scientific Knowledge Reflected in 4Q560", Tupá Guerra argues that grammatical irregularities in 4Q560 may reflect "magical" practices (a term for which Guerra explicitly acknowledges its heuristic purpose). Guerra demonstrates, even drawing upon modern evidence, that the writing of magical practices is not simply a record but a magical practice in and of itself. Pointing to inverted writing in other ancient texts, Guerra suggests that the grammatically "incorrect" male-female entities in 4Q560 were intentional. While some readers might not prefer the term "magic", Guerra produces a very helpful reminder that these Aramaic texts are first and foremost written texts—not Platonic ideals floating outside the cosmos.

In "Enoch at the Ends of the Earth: Horizon-Based Astronomy and the Stars in 1 Enoch 33–36", Henryk Drawnel argues that Enoch travels to the ends of the Earth precisely because this is the region most suitable for gaining accurate knowledge of the heavens (at least from the perspective of horizon-based astronomy). Thus, Enoch's knowledge is not simply revelation but firsthand, observational knowledge. For historians of science, this chapter is especially useful for revealing an ancient, emic presentation of how astronomical knowledge was produced.

In "'From there I traveled to another place.' (1QEn *passim*): Geography in 1 Enoch 20–32", Nóra Dávid argues that real-life geography influenced the depiction of Enoch's journey. In particular, Dávid considers the similarities between paradise and the places of the dead in locales such as Palmyra and Petra. Dávid concludes with a call to place 1 Enoch's "travels" into conversation with Greek and even Latin travel literature. Classicists and Second Temple scholars alike may be surprised at just how much overlap exists between their respective texts (especially since 1 Enoch is often siloed as an apocalyptic text).

In "The Provenance and Purpose of the Genesis Apocryphon", Siam Bhayro and Anne Burberry argue that the Genesis apocryphon was conceptualized—in their construction, an important distinction from composed: both Bhayro and Burberry acknowledge that the Aramaic of the actual document points to a Levantine composition—in Mesopotamia rather than in the Levant as commonly maintained. After carefully rebutting usual arguments in favor of its Levantine conceptualization, they note how the narratives' emphasis on bloodlines fits better in a diasporic context. This chapter, while sure to provoke responses, is nuanced and deserves attention.

In "Authorizing Knowledge: Magical Healing and the Watchers' Tradition in Qumran", Ida Fröhlich explores the intersection of demonology and healing practices at Qumran, demonstrating how the myth of the Watchers provides the conceptual background for the disease/demon nexus found in many Qumran texts. This chapter is an excellent reminder that praxis and Enochic narrative were not siloed from each other in the ancient world.

Perhaps the only substantial issue with the volume is the organization of these diverse chapters. Although the volume contains only 11 chapters (which are, to be clear, not insignificant in length) beyond the introduction, the rationale presented in the introduction for the chapters' ordering is not always useful in practice. For example, Geller's opening chapter on astronomical phenomena is immediately followed by a chapter on cuneiform writing and divination, despite the fact that the later chapters of Jacobus and Drawnel (which are themselves not clustered together!) also focus on astronomical phenomena. Similarly, given that Ben-Dov critiques Mesopotamian-centric comparative work, this chapter perhaps would have served as a useful framing piece either at the beginning or end rather than in the middle. The end result is that the reader must jump around a bit if they wish to place related chapters (at least, in my mind) in conversation with one another.

I suspect that some specialists might also have concerns with the use of "science" in an ancient context. In my opinion, however, it is refreshing to see the authors refuse to derail into extensive discussions of semantics; they acknowledge that ancient and modern definitions of science differ, and they simply use the term "science" as a heuristic label for the categories of knowledge that ancient peoples found relevant—even if that knowledge includes "unscientific" categories such as demonology. In short, as the preface proclaims, the authors prefer emic definitions, and yet they avoid reinventing the wheel with new etic terminology. What may be a bit more troubling to some schools of thought in religious studies is the use of "magic" in several chapters and even the category of religion when applied to the ancient world.

In summary, these are minor quibbles, and I heartily recommend this volume. Scholars interested in the Dead Sea Scrolls, apocalyptic literature, ancient Jewish knowledge, and Late Babylonia will find this volume a treasure trove of useful information and provocative ideas. For scholars outside the cosmos of biblical studies and more in history of science proper, a number of these chapters are incredibly relevant for ancient astronomy and medicine, and Fröhlich's introductory chapter demonstrates why historians of science should care about these Aramaic texts from Qumran.