

# ASTROLOGY IN THE TORAH

A COMPARATIVE STUDY OF ASTROLOGICAL THEMES IN THE HEBREW  
BIBLE AND BABYLONIAN TALMUD

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Dissertation submitted in partial fulfilment of an M.A. in Cultural Astronomy  
and Astrology

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## Abstract

Against a backdrop of the greatest civilizations of the ancient world, surrounded by paganism and astrolatry, emerged the Jewish Bible. A millennium later, in quiet enclaves of the Sasanian Empire of pre-Islamic Iran, a melting-pot of heterogeneous religious and ethnic communities, dominated by Zoroastrian culture, the Babylonian Talmud, the culmination of generations of Rabbinic oral discussion of Torah law, was born.

Contemporary divinatory practices prevalent in the pagan cultures of Classical Antiquity were seemingly reviled in both the Bible and the Talmud. Yet, beneath that apparent veneer, there was evidence of an attitude towards celestial phenomena that paralleled that of contemporaneous culture, the cognition of a relationship between the stars and the Earth that belied a wholesale rejection of astrological belief.

Whilst spurning astral religion, both the Jewish Bible and the Talmud incorporated a cosmology and attitude that recognised the significance of the celestial bodies beyond the physical. This paper seeks to analyse the nature and extent of that attitude, comparing and contrasting the Bible and the Talmud's conception of the heavenly bodies. It will also seek to determine and clarify the relationship of the conceptual worlds of the Tanach's authors and classical Rabbinic Judaism [Talmudic] to astrology and its various categories, assessing whether or not the rabbis' theological stance vis-à-vis astrology differs substantially from that of the Bible.

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## Introduction

The aim of this paper is to explore and contrast the astrological concepts extant in the Hebrew Bible (Tanach) – the classic Jewish Writings from late second millennium BCE (earliest estimate of the Mosaic Pentateuch) until late first millennium BCE – to their presence in the main body of rabbinic writings of Late Antiquity (between 150–750 CE), the Babylonian Talmud.<sup>1</sup> The study will analyse the extent and provenance of astrological notions, as a cultural theme, a divinatory tool, an astral religion, a science or a cosmology, and probe the meaning of the astrological terms, both from a historical-philological and a sociological-anthropological perspective.<sup>2</sup>

This paper begins with an introduction of the subject matter and a definition of terms. A discussion of the methodology used in the analysis of primary sources will be presented in Chapter One. Chapter Two will present a survey of the scholarship to-date; ‘section one’ on astrology in the Bible and ‘section two’ on the astrology in the Talmud. This will be followed in Chapter Three, Section One, by an analysis of the textual sources in Tanach, focusing upon clear astrological themes, as opposed to fanciful hypotheses. Chapter Three, Section Two, will present an analysis of Talmudic sources. Chapter Four will present the conclusions drawn, with particular attention to evolution of thought and culture.

Various scholars underscored the speciousness of dismissing observations of scientific references in Biblical texts as ‘the taint of foreign influence’.<sup>3</sup> A. Thomas Kraabel (1934–2016) observed that, due to prejudices and lack of historical evidence, it is difficult to ascertain exactly what happened when one religious tradition or culture interacted with another.<sup>4</sup> In considering the text’s milieu as the probable source of the astrological notions encountered, this paper will view those notions as part of an intercultural exchange between contemporaneous, neighbouring cultures, whilst not rejecting that they may have been the result of

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<sup>1</sup> *Tanach*, ‘Hebrew Bible’, and ‘Talmud’ are defined later in this section. Regarding the period of Late Antiquity, see Peter Robert Lamont Brown, *The World of Late Antiquity, AD 150-750* (Harcourt Brace Jovanovich, 1971).

<sup>2</sup> The terms ‘astrology’, ‘culture’, ‘paganism’, ‘science’, and ‘religion’ are defined later in this section.

<sup>3</sup> A. Y. Reed, ‘Was there Science in Ancient Judaism? Historical and Cross-Cultural Reflections on “Religion” and “Science”’ *Studies in Religion* (vol. 36, 2007; pp. 461-495), p. 467. See also, Angel Manuel Rodríguez, ‘Ancient Near Eastern Parallels to the Bible and the Question of Revelation and Inspiration’, *Biblical Research Institute Journal of the Adventist Theological Society* (vol. 12, Is. 1, 2001, pp. 43-64), p. 43.

<sup>4</sup> A. T. Kraabel, ‘The Disappearance of the ‘God-Fearers’, *Numen*, Vol. 28, Fasc. 2 (Brill, 1981), p. 113.

internal Jewish tradition and study, or subject to that culture's interpretation.

Richard Kalmin observed that several scholarly discussions on the astrology in Talmudic texts were marred both by a lack of understanding of the texts at a basic level and a limited knowledge of the latest methods of modern critique on rabbinic literature.<sup>5</sup> A similar observation might be extended to various extant works on Biblical texts. In light of Kalmin's comments, this particular study has the advantage of an awareness of modern scholarship on the Talmud, as well as a deep familiarity with the Hebrew and Aramaic [Talmudic] texts, and their religious context. Hebrew and Aramaic sources have been approached in the original language and translated by the author throughout (save where otherwise indicated).

As an orthodox Jew who has been studying astrology for sixteen years, this paper approaches both astrology and the primary material from an emic perspective.<sup>6</sup>

Since this study will not directly address extracanonical writings or archaeological discoveries, it cannot present a complete textual or cultural analysis. It will, however, serve to clarify differences in the influences that were brought to bear on the respective textual sources, and illuminate any significant diversions in theological discourse.

### **Astrology and the Bible: Strange Bedfellows?**

The past century has seen mainstream academia change its perception of how ancient Judaism viewed astrology. Whilst the cultural influence of surrounding nations had been well documented (noted in this section and the 'Review of Previous Work', and discussed in 'Findings and Discussion'), up to half a century ago, the majority of scholars denied the notion that the Jewish Bible or [rabbinic] Ju-

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<sup>5</sup> R. L. Kalmin, 'Chapter 7: Astrology', in *Migrating Tales: The Talmud's Narratives and Their Historical Context* (Oakland: University of California Press, 2014), pp. 175-6.

<sup>6</sup> Regarding the etic/emic distinction ('etic' derived from the word, 'phonetic' (meaning a notation used to represent a sound), and 'emic', from 'phonemic' (a sound) (Russell T. McCutcheon, (ed.) *The Insider/Outsider Problem in the Study of Religion*, London: (A & C Black, London, N.Y. (1999), p. 15)), though there has been no precise, agreed definition, 'emic' is generally understood as an insider's view and 'etic' an outsider's (see: Marvin Harris, 'Emics and Etics Revisited', *Frontiers of Anthropology* (Sage, Newbury Park, 1990), p. 51; *The Insider/Outsider Problem in the Study of Religion: a Reader*, edited by Russell T. McCutcheon (London: Cassell, 1999), p. 17)). 'Worldview', is used here, as defined by Robert Redfield, to mean an 'outlook upon the universe [...] which allows us to describe a way of life and to compare ways of life with one another' (Robert Redfield, 'The Primitive World View', *Proceedings of the American Philosophical Society* (1952, Vol. 96), p. 30



daism of Late Antiquity bore any affinity with astrology or astral cults.<sup>7</sup> In the late twentieth century, Judaism's association with astrology was perceived as existing only from the late Second Temple period onwards (c. 200 BCE), a perception sparked by the discoveries of synagogue mosaic-floors featuring the zodiac.<sup>8</sup>

However, round the turn of this century, scholarship has shown that both the Jewish Bible and the Talmud incorporate a cosmology and attitude that, whilst spurning astral religion, recognises the significance of the celestial bodies.<sup>9</sup> This paper will address aspects of that cosmology, the degree of recognition, the Bible and the Rabbis' (of Late Antiquity) attitude to astrologers and astrology, and the extent to which astrology was viewed as pagan or as part of the cosmos.

In a related vein, this paper will explore the term *mazol* (generally pronounced *mazal* and translated as 'constellation') as it appeared in Tanach and the Talmud, and the related Talmudic dictum, *ein mazol le'Yisroel* – 'there is no *mazol* for Israel'. It will also investigate whether or not the Talmud sees the concept of *mazol* as tantamount to *avodah zorah* (lit. 'foreign worship', namely, cultic astral worship), or as part of the natural order, and whether or not the cultural parallels in Talmudic terminology are coherent with Pentateuchal tradition.<sup>10</sup>

## Challenges in Translation

Attempts to understand how a certain society envisioned the heavens (for

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<sup>7</sup> Jacob J. Schacter, 'Introduction' *Judaism's Encounter with Other Cultures: Rejection or Integration?* ed. by J. Schacter (Jason Aronson, Incorp., 1997), p. x; James H. Charlesworth, 'Jewish Interest in Astrology in the Hellenistic and Roman Period', *Aufstieg und Niedergang der römischen Welt* (Vol 2., no. 20.2 (Berlin: de Gruyter, 1987), pp. 926-950), p. 927. L. Wachter, 'Astrologie und Schicksalsglaube im rabbinischen Judentum', *Kairos* (Vol. 11, 1969: pp. 181-200), quoted by Stuckrad, 'Jewish and Christian Astrology', p. 23; Jacob Neusner, *A History of the Jews in Babylonia* (Leiden: Brill: 1965-70, Vol. 5), p. 192. There were exceptions, for example, Alfred Jeremias' *The Old Testament in the Light of the Ancient East*, transl. by C. L. Beaumont (Williams & Norgate, 1911), though its panbabylonistic approach resulted in its being rejected regardless of any otherwise significant contribution.

<sup>8</sup> See, e.g., N. Avigad, 'The Mosaic Pavement of the Beth-Alpha Synagogue and Its Place in the History of Jewish Art. The Beth-Shean Valley', *The Beth-Shean Valley. The 17th Archaeological Convention* (Jerusalem: 1962), pp. 63-70; Charlesworth, 'Jewish Astrology in the Talmud, Pseudepigrapha, the Dead Sea Scrolls and Early Palestinian Synagogues', *The Harvard Theological Review*, Vol. 70, No. 3/4 (Jul.-Oct., 1977), pp. 183-200; pp. 183-200; Kdumim-Ariel, 'The Circle of the Zodiac and the Scientific Reasons for its use in the Ancient Synagogues in Israel', *Judea and Samaria research Studies. Proceedings of the 4rd Annual Meeting-1994*, edited by Z. H. Erlich and Y. Eshel, pp. 179-188; Rachel Hachlili, 'The Zodiac in Ancient Jewish Synagogue Art: A Review' *Jewish Studies Quarterly*, Volume 9 (2002), pp. 219-258.

<sup>9</sup> Charlesworth, 'Jewish Astrology in the Talmud', p. 200; Stuckrad, 'Jewish and Christian Astrology', p. 33; Nicholas Campion, *The History of Western Astrology, Volume 1: The Ancient World* (Continuum, 2009), p. 256.

<sup>10</sup> See Andrea D. Lobel, 'From Babylon to Jerusalem: The Roots of Jewish Astrological Symbolism', *Sky and Symbol*, ed. Nicholas Campion and Liz Greene (Sophia Centre Press, 2011, pp. 85-101), p. 91.

example), must be bolstered with an appreciation of its underlying worldview.<sup>11</sup> Otherwise, as Kraabel cautioned, preconceptions may colour the scholar's understanding.<sup>12</sup> To present an accurate reading of the texts and identify the role of astrology in the outlined periods, attention will be given to underlying ideologies. Translations will strive to express the text's intention and not impose anachronistic meanings associated with the translator's own viewpoint or culture.<sup>13</sup>

A full analysis of all the textual terms is beyond the scope of this paper. Where necessary, an approximate translation will be given, balancing paraphrasing with exactitude, with clarification in footnotes. (Translations of the Hebrew or Aramaic text are mine, unless otherwise specified.)<sup>14</sup>

## Definitions

*Tanach*: The Hebrew Bible.<sup>15</sup>

Pentateuch: The Five Books of Moses

Torah: A generic term for the corpus of Judaic religious literature.<sup>16</sup>

Talmud: a series of *sugyas* ('pericopes') comprising exchanges of reasonings, challenges and conclusions, and tangentially based on the *Mishnah* (Oral Law). There are two Talmuds: the Babylonian Talmud (bT or *Bavli*) and the Jerusalem

<sup>11</sup> Stanisław Iwaniszewski, 'Rethinking Nahualac, Iztaccíhuatl, Mexico: Between Animism to Analogism in Mesoamerican Archaeoastronomy', *The Marriage of Astronomy and Culture: Theory and Method in the Study of Cultural Astronomy. A special issue of Culture and Cosmos* (Culture and Cosmos: Sophia Centre Press, Vol. 21, no. 1, Spring/Summer 2017), p. 216.

<sup>12</sup> A. T. Kraabel, 'Disappearance of the 'God-Fearers'', pp. 113-126 (p. 113: 'modern prejudices and pre-suppositions [...] distort our perception of the ancient traditions [...], (and) the effects of their meeting').

<sup>13</sup> See Eduardo Viveiros de Castro, 'Perspectival Anthropology and the Method of Controlled Equivocation', *Journal of the Society for the Anthropology of Lowland South America* (June, 2004), Volume 2, Issue 1, Article 1; Theodor Herzl Gaster, 'Divine Kingship in the Ancient Near East: A Review Article', *Review of Religion*, Issue 9 (1945), pp. 267-9.

<sup>14</sup> Hebrew words will be transliterated in accordance with the traditional *Ashkenazi* pronunciation: 'th' indicating the soft or 'fricative' ת *thof*, (or *sof* – as opposed to the hard or 'plosive' *tof*), 'q' for letter ק *quf*, 'k' for the plosive כ *kaf*, and 'hk' for the soft ח *khaf*. Popular Hebrew names of the books of the Bible and personages will be transliterated according to their common usage. No accentual or diacritical marks have been used (in the Hebrew transliteration) since the current academic consensus reflects a reading that is foreign to the author. A short definition of terms will be given (in parenthesis) following the word. Where necessary, further explanation is provided in footnotes.

<sup>15</sup> The Masoretic Text can be found in *Biblia Hebraica Stuttgartensia Liber Gen*, (H. Bardtke: Hendrickson Publishers Marketing, LLC; 2017), available online < <https://www.academic-bible.com/en/online-bibles/biblia-hebraica-stuttgartensia-bhs/read-the-bible-text/> > acc. 6th Dec. 2018. The twenty-four books are: five books of the Pentateuch – Genesis, Exodus, Leviticus, Numbers, Deuteronomy; eight books of the Prophets (*Nevi'im*): Joshua, Judges, Samuel, Kings, Isaiah, Jeremiah, Ezekiel, the Twelve minor prophets; eleven books of the Writings (*Khesuvim*): Psalms, Proverbs, Job, Song of Songs, Ruth, Lamentations, Ecclesiastes, Esther, Daniel, Ezra/Nehemiah, Chronicles.

<sup>16</sup> George F. Moore, *Judaism in the First Centuries of the Christian Era: The Age of Tannaim* (Hendrickson Publishers, 1997). In Deuteronomy and Joshua, 'Torah' refers specifically to all or parts of Deuteronomy: see Deut. 4.44, 27.3, Joshua 1.18, Bereishith Rabbah 6.9 (Theodor-Albeck edition), pp. 49-50.

Talmud (yT). The bT has formed the basis for most Jewish law codes and this paper focuses on the bT.

*Tano'im* (singular תנא – *ta'no*),: ‘repeaters’ or ‘teachers’: the name ascribed to the Rabbinic sages of the Mishnaic or Tannaic Period. *Amoro'im* (singular אמורא – *amoro*): ‘sayers’ or ‘reciters’: the sages of the Talmudic Period, i.e. from after the compilation of the Mishnah (c. 200 CE) to c. 550 CE.<sup>17</sup> *Stamo'im* (lit. ‘anonymous ones’): a modern term referring to anonymous redactors of the Talmud, circa 550–700 CE.<sup>18</sup> For simplicity, the preface ‘R.’ will be used for all rabbis.

The dating of individual traditions are subjects of debate, negating the possibility of drawing conclusions from attributed statements, apropos their historic veracity or provenances.<sup>19</sup> However, it is possible to make assumptions from a *sugya* regarding the period of Late Antiquity until the Talmud’s final redaction.

There are two Talmuds: the Babylonian Talmud [henceforth: bT or *Bavli*] and the Jerusalem Talmud [henceforth: yT].<sup>20</sup> The bT, compiled by the *Amoro'im* of Sasanian Babylon, c. 230–550 CE, and subsequently edited and ‘sealed’ c. 500–750 CE, generally reflected the opinion and erudition of the Babylonian rabbinic authorities. The yT, a comparatively concise work composed and ‘sealed’ in Palestine c. 400 CE, generally reflected the attitude of the rabbinic study-houses of late Roman-Palestine.<sup>21</sup>

Due to its different location and period, the yT’s views (of astrology) may differ to that of the bT and would thus warrant a separate discussion.<sup>22</sup> However, as it

<sup>17</sup> Sol Scharfstein, *Torah and Commentary: The Five Books of Moses* (Ktav Publishing House, 2008), p. 523; H. L. Strack and G. Stemberger, *Introduction to the Talmud and Midrash*, trans. by M. Bockmuehl (Minneapolis, 1992), pp. 72–105.

<sup>18</sup> Based on theories proposed independently by David Weiss Halivni, *Mekorot u'Mesorot* (N.Y.: Jewish Theological Seminary, 1982); idem., *The Formation of the Babylonian Talmud*, translated by Jeffrey L. Rubenstein (OUP); Shamma Friedman, *Talmudic Studies: Investing the Sugya, Variant Readings and Aggada* (New York/Jerusalem: JTS, 2010); cf. J. L. Rubenstein, *The Culture of the Babylonian Talmud* (Johns Hopkins Univ. Press, 2005), though the period of the *Stamo'im* is a subject of academic debate (see Halivni, *ibid* and S. Friedman, *ibid*). These theories have been disputed, e.g., by Abraham Weiss (1895–1970), Louis Jacobs (1920–2006) and more recently challenged, by Richard Lee Kalmin, *The Redaction of the Babylonian Talmud: Amoraic or Saboraic* (HUC, 1989) and Moulie Vidas, *Tradition and the Formation of the Talmud* (Princeton University Press, 2014). However, as this is the prevalent academic view, this paper will utilise these theories in analysing Talmudic text.

<sup>19</sup> R. Kalmin, *Jewish Babylonia between Persia and Roman Palestine* (New York: Oxford University Press, 2006), p. 194, n. 58; Kalmin, *Migrating Tales*, p. xi.

<sup>20</sup> Although referred to as the Jerusalem Talmud (the literal translation of its Hebrew appellation, ‘Talmud Yerushalmi’), as Jews were forbidden to enter Jerusalem and it was mainly written in Tiberias, its more accurate title is *Talmud Erets Yisro'el* (Talmud of the Land of Israel); see Lawrence Schiffman, *From Text to Tradition: A History of Second Temple and Rabbinic Judaism* (Ktav Publishing, 1991), p. 227.

<sup>21</sup> R. Kalmin, *The Sage in Jewish Society of Late Antiquity* (Routledge: London, N.Y.; 1999), pp. 5–7.

<sup>22</sup> See, e.g., Kimberly Stratton, ‘Imagining Power: Magic, Miracle, and the Social Context of Rabbinic Self-Representation’, *Journal of the American Academy of Religion*, (Oxford University Press, Jun., 2005), Vol.

is primarily the bT's interpretations of the Bible, and assessment and transmission of the Oral Law and traditions, that form the basis of subsequent Jewish law codes and rabbinic literature, this study concentrates on the Babylonian Talmud. References to the Talmud are to the Bavli text, specifically the Vilna edition (1835), unless otherwise indicated.

Scholastic material of Palestinian provenance has also been preserved in the bT, as, for example, passages of Midrash (a large and distinct body of exegesis literature based on the Tanach, evident in the pre-Tannaic period and transcribed between c. 2<sup>nd</sup> and 11<sup>th</sup> century CE).<sup>23</sup> These will be duly noted.

The term 'Jews' (from the Hebrew, *Yehudoh* (Judah), plural: *Yehudim* (Judeans)) as a collective title for the Israelites, stems from post the Babylonian exile, whence the returning Jews were termed 'Judeans'.<sup>24</sup> In reference to the pre-exilic period (before the Assyrian conquest of the Northern kingdom of Ancient Israel), it is, at best, an anachronism.<sup>25</sup> Equally, the term, 'Judaism', when referring to the pre-exilic era, may be considered chronologically inconsistent.<sup>26</sup> It would, therefore, seem correct to use the label 'Israelites' or 'Hebrews' in reference to the pre-exilic period and 'Jews' for the post-exilic period and, similarly, to differentiate between Judaic culture and the culture and practices of the earlier Israelites.

However, in designating an era as 'pre-exilic' rather than 'post-exilic', Lester L. Grabbe detected a subtle value-judgement, an insinuation that the 'post-exilic' period represents a degeneration in both the religious and national situation of

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73, No. 2, pp. 361-393; R. Kalmin, *The Sage in Jewish Society of Late Antiquity*, pp. 5-7.

<sup>23</sup> Kalmin, 'Problems in the use of the Babylonian Talmud for the History of Late Roman-Palestine: The Example of Astrology', *Rabbinic Texts and the History of the Late Roman-Palestine: Proceedings of the British Academy*, ed. by Philip S. Alexander and Martin Goodman (Oxford University Press for The British Academy, 2010; pp. 165-183), p. 166; Jacob Neusner, *What is Midrash* (Wipf and Stock Publishers, 2014); Carol Bakhtos, 'Recent Trends in the Study of Midrash and Rabbinic Narrative', *Currents in Biblical Research* (vol. 7, issue 2: 2009; pp. 272-293); Bakhtos, 'Midrash', in *Oxford Bibliographies* available at <http://www.oxfordbibliographies.com/view/document/obo-9780199840731/obo-9780199840731-0045.xml#firstMatch> acc. 19<sup>th</sup> Dec. 2018.

<sup>24</sup> Before Jeremiah, *Yehudi* is only used in the sense of one who lived in the Judean part of Israel (e.g. II Kings 16.6). As most Israelites exiled to Babylon after the destruction of the First Temple (c. 586 BCE) were from the tribe of Judah or had been under the Judaic king's rule, Israelites were subsequently called *Yehudim*, i.e. Judeans (see Jeremiah, 52; Esther, 2:5; Nehemiah *passim*; cf. Ezra 5.1, where it refers to those living in the Persian province of *Yehud*). Steve Mason argued that the term *Judean* ought to be used instead of Jew or Judaism (see S. Mason, 'Jews, Judaeans, Judaizing, Judaism: Problems of Categorization in Ancient History', *Journal for the Study of Judaism* (Brill: Vol. 38: 2007) pp. 457-512).

<sup>25</sup> Steven D. Fraade, 'Palestinian Judaism', *Anchor Bible Dictionary* ed. by David Noel Friedman (N.Y: Doubleday, 1992) vol. 3. Addendum, pp. 1054-5; cf. G. Harvey, *The True Israel: Uses of the Names Jew, Hebrew and Israel in Ancient Jewish and Early Christian Literature* (Leiden: Brill, 1996) pp. 11-103.

<sup>26</sup> Fraade, *ibid*; Marc Zvi Brettler, 'Judaism in the Hebrew Bible? The transition from ancient Israelite religion to Judaism', *The Catholic Biblical Quarterly* (Washington: vol. 61, Is. 3; 1999: pp. 429-47), pp. 429-30.

Israel'.<sup>27</sup> Though the distinction might be deemed necessary as it is based upon an awareness of the Babylonian influences absorbed by the Judaic culture through its initial exile in Babylonia (c. 588-518 BCE), Shemaryahu Talmon (1920-2010) criticised the 'radical disjuncture' inherent in distinguishing between 'Biblical Israel' and 'Early Judaism' 'determined by subjective predilections' and 'based on theological notions or credal dispositions' rather than an objective scholarly analysis.<sup>28</sup> Klaus Koch also argued that 'the differentiation between (ancient) Israel and Judaism is a matter of convenience among historians'.<sup>29</sup>

Accordingly, this paper has opted to reflect recent academic opinion that suggests that the terms 'Jew', 'Jewish people', and 'Judaism' be extended to include the pre-exilic period [though, admittedly, the term 'Judaism' may be a modern misnomer], thus indicating continuity in tradition and practice.<sup>30</sup> In this case, 'Jew' would be defined as a member, through descent or conversion, of a people who trace their origins to the Biblical 'Children of Israel' (*Bnei Yisro'el*) and whose endogenous religious culture is recognised today as Judaism.<sup>31</sup> 'Judaism' is defined as a way of life that incorporates a system of law, religion, ethics and morality, based upon and prescribed by the Torah.<sup>32</sup>

In this paper, the 'Land of Israel' prior to the Roman conquest is referred to as

<sup>27</sup> Lester L. Grabbe, 'The Jewish Theocracy from Cyrus to Titus: A Programmatic Essay', *Journal for the Study of the Old Testament* (Vol. 12, Iss. 37: 1987), pp. 117, 122.

<sup>28</sup> S. Talmon, 'Between the Bible and the Mishna', *The World of Qumran from Within: Collected Studies* (Jerusalem: Magnes Press, Hebrew University; Leiden: Brill, 1989), p. 22.

<sup>29</sup> K. Koch, 'Ezra and the Origins of Judaism', *Journal of Semitic Studies* (Vol. 19, Issue 2; 1974), pp. 173–197), pp. 196-7.

<sup>30</sup> Laurence Schiffman, *From Text to Tradition: A History of Second Temple and Rabbinic Judaism*, (KTAV Publishing House, Inc., 1991) p. 1; Brettler, 'Judaism in the Hebrew Bible?', pp. 441-4, 445-6.

<sup>31</sup> *Oxford Dictionaries*, <https://en.oxforddictionaries.com/definition/jew>, acc. 1<sup>st</sup> May, 2018. See also, Schiffman's definition, *From Text to Tradition*, p. 1, 'the collective religious, cultural and legal tradition and civilization of the Jewish people as developed and passed down from biblical times until today'. Cf. Daniel Boyarin ('Introduction', in *A Radical Jew* (Berkeley: University of California, 1997), pp. 2, 13-38. *Bnei Yisro'el*, transliteration of the Hebrew, בני ישראל (lit. 'Children of Israel'), is a term ascribed to the descendants of the major Biblical figure, *Yisro'el* (see e.g. Gen., 46.8), generally transliterated as 'Israel'.

<sup>32</sup> Jacob Neusner, 'Rabbinic Judaism in Late Antiquity', *Encyclopedia of Religion*, ed. by Thomson Gale (Macmillan Reference, 2005), p. 7583; Asher Maoz, subsection 'Judaism', in 'The Impact of Jewish Law on Contemporary Systems with Special Reference to Human Rights', *Olir* (2004), pp. 1-3. Cf. Boyarin, *Judaism: The Genealogy of a Modern Notion* (Rutgers University Press): 'the distinction between religion and ethnicity is foreign to Judaism'; and Boyarin, 'The Christian Invention of Judaism: The Theodosian Empire and the Rabbinic Refusal of Religion', *Representations* (Vol. 85, Issue 1, 2004; pp. 21-57), p. 21, 48, 'no word in premodern Jewish parlance means "Judaism". When the term *Ioudaismos* appears [...], it (means) [...] the entire complex of loyalties and practices that mark off the people of Israel'; 'Judaism both is and is not a "religion", [...] neither quite here nor quite there'. Similarly, Steve Mason contended 'the *Ioudaioi* were understood not as a *religiocita*' but as an ethnic-political-ancestral culture (S. Mason, 'Jews, Judaeans, Judaizing, Judaism', p. 512). See though, Jan Assmann, "'Religion", like "paganism", is an invention of monotheism' (Assmann, *Of God and gods: Egypt, Israel and the Rise of Monotheism* (University of Wisconsin Press, 2008), p. 10).



‘Ancient Israel’ and includes both the northern kingdom of Israel and the southern kingdom of Judah during the Iron Age (c. 1200–586 BCE). The same region after the Roman defeat of Bar Kochba in 135 CE is referred to as ‘Palestine’. This reflects the general consensus of historians. References to the ancient Near East (ANE) are to the regions known today as the Middle East and the Levant.<sup>33</sup>

‘Culture’, in the context of this paper, is understood in its widest sense as a society’s ‘ideas, customs and social behaviour’ whose meaning lies ‘in the way the practices are interpreted by the insiders’.<sup>34</sup> The terms ‘pagan’ and ‘paganism’ are used in their sense of Christian self-definition to mean a non-Abrahamic, polytheistic or pantheistic religion.<sup>35</sup>

As the definition of science, and its notion of knowledge, depends on its historic and social context, in this paper, ‘science’ is defined as ‘knowledge gained by observation of the natural world’, where that knowledge is understood by that society as indicative of regular natural laws.<sup>36</sup> ‘Magic’ is defined as a system of interconnection between various levels of reality that forms the basis of a ritual.<sup>37</sup>

Regarding religion, Stewart E. Guthrie wrote, ‘scholars agree that no convincing general theory of religion exists’, whilst Edwin Judge asserted that when discussing ancient history, the term ‘religion’ is a particularly vexing misnomer.<sup>38</sup>

<sup>33</sup> It thus includes the locations of the following [modern] states: Israel, Jordan, Lebanon (ancient Ugarit), Syria (related to ancient Assyria), Egypt, Iran (previously, Persia), Iraq (ancient Mesopotamia), Saudi Arabia, Greece and Turkey; see Amélie Kuhrt, *The Ancient Near East, C. 3000–330 BC, Volume 1*, (Psychology Press, 1995), p. 1.

<sup>34</sup> (*Oxford Dictionaries*, <<http://www.oxforddictionaries.com/definition/english/culture>> [acc. 5th Nov. 2016]; J. Mulholland, *The Language of Negotiation* (London: Routledge, 1991), p. 8).

<sup>35</sup> Owen Davies, *Paganism: A Very Short Introduction* (Oxford University Press, 2011), pp. 2–7; also, Alan Cameron, *The Last Pagans of Rome* (OUP, 2013), p. 25 (responding to Garth Fowden’s objection to using the terms ‘pagan’ and ‘paganism’: Fowden, ‘Polytheist religion and philosophy’, *The Cambridge Ancient History: Vol. 13, The Late Empire, AD 337–425*, edited by Averil Cameron, Peter Garnsey (Cambridge University Press, 1997), pp. 538–560).

<sup>36</sup> Philip S. Alexander, ‘Enoch and the Beginnings of Jewish Interest in Natural Science’, *Ancient Jewish Sciences and the History of Knowledge in Second Temple Literature*, edited by Jonathan Ben-Dov and Seth Sanders (NYU Press: 2014; pp. 25–50), pp. 26–27; David N. Livingstone, *Putting Science in Its Place: Geographies of Scientific Knowledge* (Univ. of Chicago Press, 2003); Mladen Popović, *Reading the Human Body: Physiognomics and Astrology in the Dead Sea Scrolls and Hellenistic–Early Roman Period Judaism* (Leiden: Brill, 2007), pp. 211–13; Eleanor Robson, ‘Empirical Scholarship in the Neo-Assyrian Court’, *The Empirical Dimension of Ancient Near Eastern Studies / Die empirische Dimension altorientalischer Forschungen*, ed. by G.J. Selz and K. Wagensohn (Vienna: Lit, 2011), pp. 603–29; Reed, ‘Was there Science in Ancient Judaism?’, p. 467; also, Geoffrey E. R. Lloyd, *Disciplines in the Making* (OUP, 2009), p. 155; *New Catholic Encyclopedia* (Thomson/Gale, 2003), Vol. 12, p. 799; Alastair Greig, Frank Lewins and Kevin White, *Inequality in Australia* (Cambridge Univ. Press, 2003), p. 21.

<sup>37</sup> Ann Jeffers, ‘Magic and Divination in Ancient Israel’, *Religion Compass* (Blackwell Publications Ltd: Vol. 1, Issue 6, 2007; pp. 628–642), p. 632; Von Stuckrad, ‘Astral Magic in Ancient Jewish Discourse: Adoption, Transformation, Differentiation’, *Continuity and Innovation in the Magical Tradition*, ed. by Gideon Bohak, Yuval Harari, Shaul Shaked (Brill, 2011, pp. 245–267), p. 250. Cf. James G. Frazer, *The Golden Bough: A Study in Comparative Religion* (Macmillan, 1890), Vol. 1, pp. 52–54.

<sup>38</sup> S. E. Guthrie, ‘Religion: What is it?’, *Journal for the Scientific Study of Religion*, (1996: Vol. 35, no. 4), p. 412;

However, for the purpose of this paper, religion is seen as ‘a system of beliefs and actions that stem from the recognition of a superior entity’.<sup>39</sup>

### Definition of Astrology

Whilst the etymological source of the term ‘astrology’, *ἀστρολογία* (*astrologia*) – from *ἄστρον* (*astron*) and *λόγος* (*logos*) – denotes ‘study’, ‘word’ or even ‘language’ of the stars, the various definitions offered by scholars reflect a synthesis of ideas and philosophies that characterises current Western astrology.<sup>40</sup>

David Pingree’s definition, ‘the study of the celestial bodies’ impact [...] upon the sublunar world’, reflecting an Aristotelian causal philosophy, disregarded the Babylonian pre-Hellenistic horoscopic astrology.<sup>41</sup> Gustav-Adolf Schoener’s definition that saw the world as a living creature ‘guided by [...] forces from beyond’, its parts and its events connected to one another and to its transcendent idea, ‘by an invisible magic bond’, was only compatible with Platonic theory combined with the Stoic concepts of *heimarmene* (lit. fate, a personified world-soul responsible for the regularity and interconnection of the cosmos and causality of events) and *sympatheia* (the simultaneous effect on all parts as a consequence of *heimarmene*).<sup>42</sup>

Other historians and scholars of astrology saw astrology as a form of divination. David Potter wrote: ‘Pride of place among the various forms of inductive

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Edwin Judge commented, ‘When one encounters the word “religion” in a translation of an ancient text: first, cross out the word [...]. Next, find a copy of the text [...] and see what word is being translated [...]. Third, come up with a different translation. It almost doesn’t matter what. Anything but “religion”.’ (Communication cited in Brent Nongbri, *Before Religion: A History of a Modern Concept* (New Haven, Connecticut: Yale Univ. Press, 2013), p. 156.

<sup>39</sup> Meir Bar-Ilan, ‘Review of Dov Schwartz, *Astrology and Magic in Jewish Thought in the Middle Ages*’, *Kabbalah* (Ramat-Gan, Is. 7), pp. 384-361, (‘דת היא מערכת האמונות והמעשים הנובעים מתוך הכרת האדם בישות’ (‘נעלה ממנו שאינה אנושית based upon Gerardus Van der Leeuw (1890-1950), *Religion in Essence and Manifestation*, trans. by J. E. Turner (NY and Evanston: Harper & Row Publishers, 1963), pp. 23, 670-671. (Hideo Kishimoto’s broader definition, ‘an aspect of culture centred upon activities [...]’ taken by those who participate in them to elucidate the ultimate meaning of life ...’ (Kishimoto, ‘An Operational Definition of Religion’, *Numen* (Brill: 1961, Vol. 8, no. 3, pp. 236-240), p. 240 [see also, p. 238]), may be anachronistic when dealing with ancient cultures.)

<sup>40</sup> Scott B. Noegel, ‘Sign, sign, everywhere a sign’, *Divination and Interpretation of Signs in the Ancient World*, ed. by Amur Annus (The University of Chicago, 2010: no. 6), p. 149; *Wordsense Dictionary* online at <http://www.wordsense.eu> accessed 5<sup>th</sup> November 2016; *The Online Etymology Dictionary*, online at <https://www.etymonline.com/> accessed 5<sup>th</sup> Nov. 2016;

<sup>41</sup> David Pingree, ‘Astrology’, *Dictionary of the History of Ideas*, ed. by Philip P. Weiner (Charles Scribner's Sons), Vol. 1, p. 118

<sup>42</sup> Gustav-Adolf Schoener, *Astrology: Between Religion and the Empirical*, translated by Shane Denson, < <http://www.esoteric.msu.edu/VolumeIV/astrology.htm> > acc. 31<sup>st</sup> July 2015 (p. 30); Nicholas Goodricke-Clarke, *Western Esotericism: A Brief History of Secret Knowledge* (Routledge, 2017), Ch. 2. Apropos the connection of *heimarmene* and *sympatheia*, see Stuckrad, ‘Jewish and Christian Astrology’, p.9.

divination available in the Roman world must go to astrology'.<sup>43</sup> Similarly, Geoffrey Cornelius declared contact with 'a spirit-like reality' to be at the heart of astrology.<sup>44</sup> Patrick Curry, too, maintained that astrology was essentially divination, though part of a wider, cultural discourse 'of relating the heavenly bodies to [...] events on earth'.<sup>45</sup> Likewise, Jeremy Black and Anthony Green described 'astrology' as 'observation of the movements of astral bodies with a view to divination of the future thereby'.<sup>46</sup>

Whilst these definitions encompass the celestial divination practises of Ancient Mesopotamia and later astrological practices, they disregard the 'cook-book'-like character of the Mesopotamia's collection of celestial omens and various almanacs of Ancient Antiquity that provided exact apodoses for set instances, as well as the apparitional methods developed for predicting the astronomical events from which the omens were forecasted, such as the astrological *parapegmata*, where the astrologer's predictions or analysis were based upon texts and apparatuses rather than contact with a deity.<sup>47</sup>

Hence, for the purpose of this wide-ranging study, which will address various periods and types of astrology, it was deemed appropriate to adopt a broad definition that would encompass the various traditions of the periods and landscapes in question. 'Astrology' is therefore defined, as delineated by Nicholas Campion, as 'the assumption that stars and planets possess or impart [integral] meaning'.<sup>48</sup>

Accordingly, this research will also reference astral religion, or astrolatry (defined in this paper as a deification of celestial bodies), in its sphere of veneration of stars either as representations or as hypostases of particular deities (as

<sup>43</sup> David Potter, *Prophets and Emperors: Human and Divine Authority from Augustus to Theodosius* (Cambridge, MA; London, Harvard University Press, 1994), p. 17.

<sup>44</sup> Geoffrey Cornelius, *The Moment of Astrology: Origins in Divination* (London: Arkana Penguin Books, 1994), p. xix; G. Cornelius, 'Is Astrology Divination and Does it Matter?', *The Mountain Astrologer* (Issue 81, 1998), available online at <http://cura.free.fr/quinq/01gfcor.html>, acc. 2<sup>nd</sup> November, 2018.

<sup>45</sup> Patrick Curry, 'Astrology', *The Encyclopaedia of Historians and Historical Writing*, ed. by Kelly Boyd (London: Fitzroy Dearborn, 1999), (pp. 55–7), p. 55; also, 'Introduction' *Prophecy and Power: Astrology in Early Modern England* (Cambridge Polty Press, 1989), p. 4; Curry, 'Divination, Enchantment and Platonism', p. 6.

<sup>46</sup> Jeremy Black and Anthony Green, *Gods, Demons and Symbols of Ancient Mesopotamia* (Austin: University of Texas Press: 1992), p. 36.

<sup>47</sup> Daryn Lehoux, 'Observation and prediction in ancient astrology', *Studies in History and Philosophy of Science* (Part A, Volume 35, Issue 2, 2004, pp. 227–246), pp. 228, 230, 237.

<sup>48</sup> Nicholas Campion, *Astrology and Cosmology in the World's Religions* (NYU Press: 2012), pp. 11, 12. See also, Stuckrad, 'Jewish and Christian astrology', p. 6, and p. 33: 'the relation between [the celestial bodies and] stars and [the] Earth'). Cf. Ioan Petru Culianu, 'Astrology' *Encyclopedia of Religion*, ed. by Mircea Eliade (NY: Macmillan, 1987), Vol. 1, pp. 473–4 (the superimposition of two systems: of the heavens and of human beings on earth; 'Through observation of the heavens, these systems attempt to account for changes within the human system.')



opposed to allusions to deities without direct reference to their stars or planets), in particular as it was integrated into Biblical or Talmudic (rabbinical) ideologies, as opposed to its mere mention in the Biblical adjurations and admonitions against idolatry.<sup>49</sup> In a similar manner, this paper will also research celestial divination (perceiving celestial phenomena as signs to be read and interpreted). Both involved assigning meaning to astral phenomena, either as manifestations or as signs of a divine agency.<sup>50</sup>

Besides the fact that astrology and astronomy were closely linked in antiquity as to be often inseparable, the Bible and Talmud ascribed meaning to celestial order, the manifestations of the luminaries (as, for example, the new moon) and various points of time.<sup>51</sup> Thus, the calendar and its related astronomical calculations could arguably be included within the afore-mentioned definition of astrology. However, due to the wide historical scope of this paper, its field of inquiry will be limited to clear astral or astrological content, as opposed to calendrical discourse, except when the latter relates directly to astrological lore. Moreover, this paper's textual analysis will make a distinction, albeit anachronistic, between astronomical and astrological allusions.

### Definition of Divination

Implicit in the etymological origin of 'divination' (the Latin, *divinatio*, from *divinus* – 'of a deity') is belief in a divine being.<sup>52</sup> Indeed, the Akkadian celestial

<sup>49</sup> Manfred Hutter, 'Astral Religion', *Religion Past and Present*, ed. by Hans Dieter Betz (Brill, 2009) available online at [http://dx.doi.org/10.1163/1877-5888\\_rpp\\_SIM\\_01191](http://dx.doi.org/10.1163/1877-5888_rpp_SIM_01191) acc. on 25<sup>th</sup> December 2018; Jeffrey L. Cooley, 'Astral Religion in Ugarit and Ancient Israel', *Journal of Near Eastern Studies*, (The University of Chicago Press, 2011: Vol. 70, No. 2, pp. 281-287), p. 281, fn. 1; Francesca Rochberg, "'The Stars and Their Likenesses': Perspectives on the Relation between Celestial Bodies and Gods in Ancient Mesopotamia", *What is a god? Anthropomorphic and Nonanthropomorphic Aspects of Deity in Ancient Mesopotamia*, ed. by Barbara N. Porter (Chebeague Island, Maine: Transactions of the Casco Bay Assyriological Institute I, 2000, pp. 41-91), pp. 65, 79, 83, 89, 90.

<sup>50</sup> Jeffrey L. Cooley, 'Celestial Divination in Ugarit and Ancient Israel: Reassessment', *Journal of Near Eastern Studies*, (University of Chicago Press, Vol. 71, No. 1: 2012), pp. 21-30.

<sup>51</sup> Erich Bischoff, *Babylonisch-Astrales im Weltbilde des Thalmud und Midrasch* (Lepizig: Hinrichs, 1907) p. 115 ('Astrologie und Astronomie sind ursprünglich eins'); David Pingree, 'Astrology and Astronomy in Iran', *Encyclopedia Iranica*, (Iran: Routledge & Kegan Paul) vol. 2, pp. 858-870, available online at <http://www.iranicaonline.org/articles/astrology-and-astronomy-in-iran> acc. 14<sup>th</sup> Dec. 2018 ('Astronomy and astrology, in the ancient Iranian view, together formed one science, which answered the questions: "How are the movements of the sun and moon and stars?" and "what is their work and function?"'); Henri Frankfort, *Before Philosophy: The Intellectual Adventure of Ancient Man* (Baltimore, MD: Penguin, 1949) p. 30; Campion, *History of Western Astrology*, I, p. 114; Campion, *Astrology, History and Apocalypse* (Centre for Psychological Astrology Press: 2000), pp. 107-8; Stuckrad, 'Jewish and Christian Astrology', pp. 14-15; Reed, 'Was There Science in Ancient Judaism?', p. 463.

<sup>52</sup> <https://www.etymonline.com/word/divination> acc. 18<sup>th</sup> Oct. 18 ('[...] from Latin *divinationem* (nominative *divinatio*) "the power of foreseeing, prediction," [...] from past-participle stem of *divinare*, literally

omens of the second millennium BCE, and subsequent celestial divination recorded in the first millennium, were based upon the notion that the gods expressed their will through the stars (amongst other things), such that the stars were referred to as *šit .ir sam<sup>ê</sup>*, literally, ‘the heavenly writing’.<sup>53</sup> This view, reflected in Hellenistic astrology, may have been prevalent in the period of the Babylonian Talmud, as will be explored in this paper.<sup>54</sup>

Consequently, this paper adopts Carmen Blacker and Michael Loewe’s definition of divination as an ‘attempt to elicit, from a higher power or supernatural being, answers to questions beyond the range of ordinary human understanding’, with a ‘diviner’ being one who practices such a method, with intention to acquire such knowledge.<sup>55</sup> The deity, divine or higher power is defined in this paper as anything perceived to possess potency; that is, a power capable of affecting others that cannot be ascribed to mere physical or mental prowess.<sup>56</sup>

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"to be inspired by a god," from *divinus* "of a god," from *divus* "a god," related to *deus* "god, deity").

<sup>53</sup> Francesca Rochberg, *The Heavenly Writing: Divination, Horoscopy, and Astronomy in Mesopotamian Culture* (Cambridge University Press, 2004), p. 1ff, fn. 1, quoting inscriptions of Nebuchadnezzar from Stephen Langdon, *Neubabylonischen Königsinschriften* VAB 4 (Leipzig: J. C. Hinrichs, 1912), p. 178; Jean Bottéro, ‘Symptômes, signes, écritures’ *Divination et rationalité* ed. by J.P. Vernant, L. Vandermeersch, J. Gernet, J. Bottéro, et al. (Paris: Editions du Seuil, 1974), p. 160. Cf. Nicholas Campion, *Astrology, History and Apocalypse* (Centre for Psychological Astrology Press: London), p. 11.

<sup>54</sup> Dorian Gieseler Greenbaum, *The Daimon in Hellenistic Astrology: Origins and Influence*, (Brill, 2015), p. 31 ff; David Pingree, ‘Hellenophilia versus the History of Science’, *Isis* (Vol. 83, Issue 4: 1992; pp. 554-563), p. 560; Ulla Koch-Westenholz, *Mesopotamian Astrology: An Introduction to Babylonian and Assyrian Celestial Divination* (The Carsten Niebuhr Institute of Near Eastern Studies Museum Tusculanum Press, University of Copenhagen, 1995), Foreword, p. 11.

<sup>55</sup> C. Blacker and M. Loewe, *Oracles and Divination* (Boulder: Shambhala 1981), p. 1. This definition is not entirely uncontroversial. Both John Addey (1920-1982) and Angela Voss (in her study of the astrology of Marsilio Ficino (1433-1499)) have argued that divination in an astrological context does not necessitate recognition of a higher power (John M. Addey, ‘Astrology as Divination’, *Astrology* (56:2, 1982; pp. 39-44), p. 39; Angela Voss, ‘The Astrology of Marsilio Ficino: Divination or Science?’ *Culture and Cosmos* (Sophia Centre Press Autumn/Winter, 2000, Vol. 4, Issue 2), pp. 29-45), p. 30). Addey argued that astrology entailed divination that was a form of intuition. Similarly, Voss saw Marsilio Ficino’s understanding of astrology as moving ‘towards an understanding of symbol as a means by which’ one may look ‘inwardly, into the human psyche, as a mirror of the cosmos’. However, both these definitions may be considered era-specific and are hardly applicable to the periods under discussion in this paper.

<sup>56</sup> See Michael B. Hundley, ‘Here a god, there a god: An examination of the divine in Ancient Mesopotamia’, *Altorientalische Forschungen* (Akademie Verlag, 2014: Vol. 40, Iss. 1, pp. 68-107), p. 77.

## CHAPTER 1: METHODOLOGY

This thesis is based upon a close textual analysis of primary texts combined with a literary research of secondary sources. The initial research will involve a lexical investigation into the more significant passages in the Tanach and Talmud that indicate astral or astrological terminologies or content, analysing their meaning, nature, provenance and predominance.

Allusions to astrology, and terms with a possible astral connection or provenance, will be investigated, both philologically and sociologically. The philological analysis will be in its largest sense, taking into account their literary history and linking their meaning to their cultural context, whilst the sociological viewpoint will consider the practitioners and surrounding cultures and religions.<sup>57</sup>

Where possible, meanings and nuances will be probed by comparing language and terminology with similar examples in contemporaneous sources of culture: for Biblical literature, the Ugarit, Syrian, Mesopotamian or Babylonian texts of the late 2nd millennium to late 1st millennium BCE, and for Talmudic literature, those of the Sasanian culture of 224–651 CE, including sources of Hellenistic influence. The literary analysis of the Talmudic texts will include source criticism, assuming the editorial polish of the Talmudic text to reflect the culture and concerns of the *Stamo'im*.<sup>58</sup>

Noel K. Weeks cautioned that in comparing texts from adjacent cultures, one be cognisant of the fact that similarities between cultures may be superficial and may not imply a sharing of ideologies.<sup>59</sup> Terms in one culture may not necessarily reflect those same terms' meanings in a neighbouring culture. Thus, in considering astrological references, care will be taken to distinguish between unambiguous astrological terms or worldviews common to astrology (or astrolatry) on the one hand, and presupposed ideologies or vague hints that lack adequate textual basis or are anachronistically inferred. Apparent allusions to astrology or astrolatry, even when advocated by several scholars, will be approached with scepticism.

<sup>57</sup> Calvert Watkins, 'What Is Philology?', *Comparative Literature Studies* (Penn State University Press: 1990; Vol. 27, No. 1, pp. 21-25), pp. 21-22.

<sup>58</sup> See Gregg Gardner, 'Astrology in the Talmud', p. 316.

<sup>59</sup> Noel Weeks, 'The Ambiguity of Biblical "Background"', *The Westminster Theological Journal* (Vol. 72, Issue 2: 2010, pp. 219-236), pp. 225-9. See also, Jeffrey L. Cooley, *Poetic Astronomy in the Ancient Near East: The Reflexes of Celestial Science in the Literature of Ancient Mesopotamia, Ugarit and Israel*, (Winona Lake, Indiana: Eisenbrauns; 2013) Chapter 1.

## CHAPTER 2: REVIEW OF PREVIOUS WORK

The following aims to present a selection of interpretations. Whilst not an exhaustive review of all previous work, it aims to encompass academia's main views on the subject.

### ASTROLOGY IN THE BIBLE

The notion that the Bible, or the rabbinic writings of Late Antiquity, related positively to astrology is fairly recent. Though both Franz Cumont (1868-1947) and Alfred Jeremias (1864-1935) referred to astrology as the cultural background to the Scriptures, until late twentieth century, historians were reluctant to see astrology as actually referenced in the Holy Writ, or as evident in ancient Judaic culture, due to the assumed Biblical injunctions against astrology (Leviticus 19.26), and the apparent admonitions of the prophets against astral divination (Jeremiah 10.2; Isaiah 47.13).<sup>60</sup>

However, the interpretation of these texts and the blinkered outlook may have been coloured by forgone prejudices of a Christian ideology that tended to disapprove of astrology (and anything deemed 'other' or 'pagan'), and thus refused to entertain the notion that there may be hints of astrology in the Holy Writ.<sup>61</sup> Once astrology was perceived of as pagan, it was seen as rooted in (in Cumont's words) 'primitive, infantile or neurotic thinking', a throwback to James G. Frazer's (1854-1941) theory of cultural evolution and magic that deeply impacted the subsequent modern academic approach to Biblical studies.<sup>62</sup>

Such views resulted in an unwitting reluctance to see astrology as an integral part of Western civilisation's own cultural history, so as to protect its self-notion as rational and enlightened.<sup>63</sup> In Francesca Rochberg words, 'as long as the study

<sup>60</sup> Franz Cumont, *Astrology and Religion among the Greeks and Romans* (Cosimo, New York, 2006), pp. xv-xvi; A. Jeremias, *The Old Testament in the Light of the Ancient East*; Ida Zatelli, 'Astrology and the Worship of the Stars in the Bible' *Zeitschrift für die alttestamentliche Wissenschaft*, (Vol. 103, Is. 1, 2009; pp. 86-9), p. 88, fn. 6.

<sup>61</sup> Though early Christian views were divided, the overriding Christian outlook towards astrology has been one of hostility, mainly due to Augustine's condemnation (of astrology) in his *City of God* (Nicholas Campion, *Astrology, History and Apocalypse* (CPA, London, 2000), pp. 43-4).

<sup>62</sup> Cumont, *Astrology and Religion*, p. xvii; Frazer, *Golden Bough*, vol. 1, p. 9ff; Jacob Pandian, 'The Sacred Integration of the Cultural Self: An Anthropological Approach to the Study of Religion' *Anthropology of Religion: A Handbook*, ed. by Stephen D. Glazier, (Praeger Publishers, Westport, 1999), p. 515; Islwyn Blythin, 'Magic and Methodology', *Numen* (Brill: 1970, Vol. 17, Fasc. 1; pp. 45-59), p. 53. See Frazer's three stages in the human psyche's development in *Golden Bough*, Ch. 5, online at <https://www.bartleby.com/196/9.html>, acc. 29<sup>th</sup> Nov. 2018.

<sup>63</sup> F. Rochberg *The Heavenly Writing: Divination, Horoscopy and Astronomy in Mesopotamian Culture*, (Cambridge University Press: UK, 2004), p. 21; Stuckrad, 'Astral Magic in Jewish Discourse', p. 246.

of astrology was regarded as primitive, our ability to reconstruct astronomy's history remained not only partial but plainly ethnocentric'.<sup>64</sup> As Robert Young concluded, 'at the heart of its science, we find a culture's values'.<sup>65</sup>

## No Astrological Belief

In his discussion of Biblical etymology, Thomas Witton Davies (1851-1923) opined that the Jews were 'never in danger of believing in astrology'.<sup>66</sup> Referring to Judea in the first millennium BCE until the Second Temple Era, Isaac Mendelsohn (1898-1965) declared that, judging from the Bible, ancient Israel knew nothing of astrology.<sup>67</sup> With respect to the Second Temple period, David Flusser (1917-2000) asserted that, after their exile to Babylon, the Jewish people 'had become completely immune to the attraction of paganism'.<sup>68</sup>

Though somewhat tempered, this notion has persisted, as Christian theology has continued to affect scholarly opinion.<sup>69</sup> Regarding contemporary scholarship on the impact of astral religion on the Abrahamic religions, Mark S. Smith commented that though 'West Semitic religion owes much to astral religion', 'most modern accounts take little note of it'.<sup>70</sup> Ida Zatelli noted, 'many interpreters

<sup>64</sup> Francesca Rochberg, 'A consideration of Babylonian astronomy within the historiography of science', *Studies in History and Philosophy of Science* (Vol. 33, Issue 4, 2002: pp. 661-684), p. 677.

<sup>65</sup> Robert Young, *Darwin's Metaphor: Nature's Place in Victorian Culture* (Cambridge University Press, 1985), p. 125, available online at <[http://www.pschoanalysis-and-therapy.com/human\\_nature/darwinmet/chap4.html](http://www.pschoanalysis-and-therapy.com/human_nature/darwinmet/chap4.html)> [accessed 28<sup>th</sup> Oct. 2018]. See also, Campion, *History of Western Astrology*, Vol. 1, p. 110. 'Science' here is understood as 'the orderly and systematic comprehension, description and/or explanation of natural phenomena' (see Marshal Clagett, *Greek Science in Antiquity* (Courier Corporation, 2001 [London, 1957]), p. 4).

<sup>66</sup> Thomas Witton Davies, *Magic, Divination and Demonology among the Hebrews and their Neighbours: including an examination of biblical references and of the biblical terms* (London, James Clarke: 1898), p. 80. It should be noted that the referenced sources were to 'rudimentary astrology', not Hellenistic astrology.

<sup>67</sup> Isaac Mendelsohn, 'Astrology', *The Interpreter's Dictionary of the Bible*, edited by Keith R. Crim and George A. Buttrick (Abingdon Press, 1979), Vol. I, p. 304. In this context, 'paganism' includes astral worship and divination.

<sup>68</sup> David Flusser, *The Jewish People in the First Century*, edited by Shemuel Safrai, et al. (Uitgeverij Van Gorcum, 1974), Volume 2, p. 1090.

<sup>69</sup> For Christian beliefs affecting academia, see Jeffrey L. Rubenstein, 'Sukkot, Eschatology and Zechariah 14', *Revue Biblique* (vol. 103, Issue 2, 1996: pp. 161-195), pp. 163-5, on Konrad R. Schaefer, 'The ending of the book of Zechariah; a commentary', *Revue Biblique* (vol. 100, Is. 2, 1993); 'Zechariah 14 and the composition of the book of Zechariah', *Revue Biblique* (vol. 100, Is. 3, 1993), referencing Harald Riesenfeld, *Jésus transfiguré: l'arrière-plan du récit évangélique de la transfiguration de Notre-Seigneur* (12 Swedish crowns, Munksgaard, Copenhagen. 1947), and Jean Daniélou, 'Le Symbolisme Eschatologique de la Fête des Tabernacles', *Irénikon* (vol. 31, 1958; pp. 19-40). See also, Campion, *History of Western Astrology*, Vol. 1, p. 110; Andrea Nicolotti, 'What Do We Know about the Scourging of Jesus?', *Bulletin of The American Schools of Oriental Research* (American Schools of Oriental Research: Dec. 2018, vol. VI, no. 12), available online < <http://www.asor.org/anetoday/2018/12/What-Do-We-Know-About-Scourging-Jesus> > acc. 7th Dec. 2018.

<sup>70</sup> M. S. Smith, 'Astral Religion and the Representation of Divinity: The Cases of Ugarit and Judah', *Prayer, Magic, and the Stars in the Ancient and Late Antique World*, ed. by Scott Noegel and Joel Walker Walker



completely exclude any possibilities of locating astrological references in the Bible'.<sup>71</sup> Alexander Altmann saw no explicit mention of astrology in the Pentateuch and only obscure references to Babylonian astrologers in the Prophets and Writings.<sup>72</sup> James Charlesworth, who spearheaded a new approach in appreciating the presence of astrology in Talmudic writings, claimed the Bible contained no influence of astrological belief.<sup>73</sup> Reed (quoting Meir Bar-Ilan) averred that interest in the study of the stars was 'almost wholly absent from the Hebrew Bible'.<sup>74</sup> Frederick H. Cryer had no doubt that the Israelites of the Bible did not practice astrology.<sup>75</sup>

### **Astral Worship and Astral Divination**

Reimund Leicht was slightly more circumspect. Referring to the polemics against undue preoccupation with the stars, he stated that belief in astrology left 'dim echoes in biblical literature', though claiming it was unclear whether those rebukes concerned astral worship or divination.<sup>76</sup>

Besides the prophets' verbal attacks against astrolatry, however, Leicht saw no hint of astrological allusions in the Bible, concluding that only during the Second Temple period, from the Hellenistic period onwards, do signs of Babylonian and Hellenistic astrology emerge within the texts.<sup>77</sup> Whereas Leicht was of the opinion that an ambivalent attitude appeared only in Rabbinic texts, Andrea D. Lobel detected ambivalence in the late Biblical writings.<sup>78</sup>

In contrast to Leicht, John S. Holladay saw lunar and solar omens as deeply entrenched in the Israelite prophetic literature, such that there was no reason to deny the presence of astrology in Tanach.<sup>79</sup> Similarly, Campion saw 'the Israelite G-d, exactly like his Mesopotamian counterparts, [speaking] through omens'.<sup>80</sup>

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(Penn State Press, 2010; pp. 187-206), p. 187.

<sup>71</sup> Ida Zatelli, 'Astrology and the Worship of the Stars in the Bible', p. 88, fn. 6.

<sup>72</sup> Alexander Altmann, 'Astrology', in *Encyclopaedia Judaica* (Jerusalem: Keter, 1973, Vol. 3, pp. 788-795), p. 788.

<sup>73</sup> Charlesworth, 'Jewish Astrology in the Talmud', p. 198.

<sup>74</sup> A. Y. Reed, 'Was There Science in Ancient Judaism?', p. 469 [italics mine].

<sup>75</sup> Frederick H. Cryer, *Divination in Ancient Israel and Its Near Eastern Environment: A Socio-Historical Investigation* (JSOT Press, Sheffield, 1994), p. 321.

<sup>76</sup> Reimund Leicht, 'Jewish Astrology', in *The Encyclopedia of Ancient History*, ed. by Roger S. Bagnall, et al. (Wiley-Blackwell, 2012), p. 873.

<sup>77</sup> Leicht, 'Jewish Astrology', p. 873.

<sup>78</sup> Leicht, 'Jewish Astrology', p. 873; Andrea D. Lobel, 'From Babylon to Jerusalem', *Sky and Symbol*, ed. by Nicholas Campion and Liz Greene (Sophia Centre Press, pp. 85-101), pp. 93-4, 97-8.

<sup>79</sup> John S. Holladay, Jr., 'The Day(s) the Moon Stood Still', *Journal of Biblical Literature* (The Society of Biblical Literature: Vol. 87, Issue 2, 1968: pp. 166-178), p. 173.

<sup>80</sup> Campion, *History of Western Astrology*, Vol. 1, pp. 115-6, 125.

Thus, Campion had difficulty explaining Jeremiah's admonition to the Jews (Jer. 10.2-3) to ignore the signs of the heavens.<sup>81</sup>

Following both John W. McKay and Morton Cogan, who argued that the Biblical prophets' denouncements of astral religion reflected an indigenous traditional worship, Campion saw the prophets as forbidding both astral worship and divination, in response to an apparent 'widespread adoption' (by the Jews) 'of Mesopotamian astrology and astral worship' before the Babylonian conquest in the sixth century BCE<sup>82</sup>

Campion further acceded to various scholars' suggestions of evidence of solar religious elements (sun-worship) in the Tanach.<sup>83</sup> Such assertions were challenged by Smith who contended that they suffered from low levels of scriptural support.<sup>84</sup>

Jeffrey L. Cooley described the academic arguments of textual references to celestial divination (as opposed to astral worship) within Judaic culture as profoundly speculative.<sup>85</sup> In contradistinction to scholars who assume a symbiotic relationship between celestial divination and astral religion, Cooley asserted that, though astral religion was present, celestial divination was not a significant part of Israelite religious expression before their Babylonian exile.<sup>86</sup>

## Proto-Astrology

Recent studies have seen an increase in academic voices noting a 'proto-astrology' in the Bible.<sup>87</sup> Besides belief in astral omens, Campion perceived

<sup>81</sup> Campion, *History of Western Astrology*, Vol. 1, p. 120.

<sup>82</sup> J. W. McKay, *Religion in Judah under the Assyrians 732-609 BC* (London: S.C.M. Press, 1973) pp. 27, 38, 51, 71; M. Cogan, *Imperialism and Religion: Assyria, Judah and Israel in the Eighth and Seventh Centuries B.C.E.* (USA: Society of Biblical Literature, 1974), pp. 86-88. See also, Othmar Keel, Christoph Uehlinger, *Gods, goddesses, and images of god* (Bloomsbury Publishing, 1998), pp. 286, 318. Cf. M.S. Smith, 'When the Heavens Darkened: The Divine Astral Family in Iron Age II Judah', in *Symbiosis, Symbolism, and the Power of the Past: Canaan, Ancient Israel, and their Neighbors from the Late Bronze Age through Roman Palaestina*, ed. by William G. Dever and Seymour Gitin (Eisenbrauns, 2003), pp. 267-71; Campion, *History of Western Astrology*, Vol. 1, p. 110.

<sup>83</sup> Campion, *History of Western Astrology*, Vol. 1, pp. 116-9; Hans-Peter Stähli, *Solare Elemente in Jahwe Glauben des alten Testaments* (Universitätsverlag / Vandenhoeck & Ruprecht, 1985), pp. 12-23.

<sup>84</sup> Smith, 'When the Heavens Darkened', p. 266.

<sup>85</sup> Cooley, 'Celestial Divination in Ugarit and Ancient Israel: Reassessment', pp. 26, 28; 'Astral Religion in Ugarit and Ancient Israel', pp. 281-2. He argued with Jonas C. Greenfield and Michael Sokoloff regarding Mesopotamian influence in Ugarit apropos celestial divination (see J. C. Greenfield and M. Sokoloff, 'Astrological and Related Omen Texts in Jewish Palestinian Aramaic', *Journal of Near Eastern Studies* (University of Chicago Press: Vol. 48, No. 3; 1989, pp. 201-214), maintaining that 'the biblical text provides evidence only for foreign practice' ('Celestial Divination', p. 28).

<sup>86</sup> Cooley, *ibid.*

<sup>87</sup> For 'proto-astrology', see Jim Tester, *A History of Western Astrology* (Boydell and Breuer, 1987), p. 13f.

‘rudimentary astrology’ as appearing in most of the Prophets.<sup>88</sup> In a similar manner, Bar-Ilan saw Bala’am’s practices (Num. 22-23) as an example of ‘pre-astrological’ rituals.<sup>89</sup>

### Astrological Worldview

Stuckrad proposed that the Bible’s criticism on astral beliefs was directed solely to astrolatry and deterministic worldviews but its underlying discourse entertained a relationship between the stars and earth, unrelated to cultic astrolatry.<sup>90</sup> This opinion was shared by Jeffers who dubbed it a ‘semitic mentality’.<sup>91</sup> It also related to Cryer’s claim that ‘ancient Israel was a magical society’.<sup>92</sup>

Likewise, Campion, quoting J. Edward Wright, saw recent scholarship as indicating that the ancient Israelites fully participated in the ancient Near East’s cultural milieu, the Bible transforming ‘inherited views of the universe’ from the ancient Canaanites to accord with its particular theologies.<sup>93</sup>

In a similar manner, although Ida Zatelli saw the Bible as condemning the astrologer, she perceived the Bible as harmonising or reinterpreting aspects of the foreign astral cults, such that, when the monotheistic principle is not threatened, ‘the “wisdom of the stars” regains its own cognitive value’.<sup>94</sup>

However, whereas both Zatelli and Campion (for different reasons) identified aspects of astrology (besides astrolatry) in the Bible, Wright detected traces only of cultural transmission of stellar religions from the background of its history.<sup>95</sup>

### The Pan-Astral School

<sup>88</sup> Campion, *The History of Western Astrology*, Vol. 1, p. 115.

<sup>89</sup> Meir Bar-Ilan, ‘Astrology in Ancient Judaism’, *The Encyclopaedia of Judaism*, Vol. V, Supplement II (Leiden - Boston: Brill, 2004), ed. by J. Neusner, A. Avery-Peck and W. S. Green, p. 2031-2044, at <https://faculty.biu.ac.il/~barilm/articles/publications/publications0078.html> acc. 31<sup>st</sup> Oct. 2018.

<sup>90</sup> Stuckrad, ‘Jewish and Christian astrology’, p. 33.

<sup>91</sup> Jeffers, *Magic and Divination in Ancient Palestine and Syria*, pp. 16, 251. See also, Campion, *History of Western Astrology*, Vol. 1, p. 256, that Biblical rulings targeted cultic star worship, ‘rather than astrology as an interpretative system’.

<sup>92</sup> Cryer, *Divination in Ancient Israel*, p. 324.

<sup>93</sup> Campion, *History of Western Astrology*, Vol. 1, p. 109-114; J. Edward Wright, *The Early History of Heaven* (Oxford University Press: 2002), pp. ix-x, 3, 185. (Wright, and possibly Campion too, is of the opinion that the Israelite religion was originally a Canaanite religion (p. 64).)

<sup>94</sup> Zatelli, ‘Astrology and the Worship of the Stars’, pp. 87, 88, 97; see also: Lobel, ‘Babylon to Jerusalem’, p. 87; Larry R. Helyer, *Exploring Jewish Literature of the Second Temple Period: A Guide for New Testament Students*, (InterVarsity Press, 2002), p. 83.

<sup>95</sup> Ida Zatelli, ‘Astrology and the Worship of the Stars in the Bible’, p. 87; Campion, *History of Western Astrology*, Vol. 1, p. 109-114; Wright, *Early History of Heaven*, pp. ix-x, 3, 185.



On the extreme side of this spectrum were those who subscribed to the pan-  
astral school of history, detecting traces of astrology and astrolatry throughout  
the Biblical narrative. Whereas Stuckrad proclaimed the importance of steering  
clear from conclusions not solidly based on textual evidence, his postulations are  
often anachronistic, with flimsy textual basis.<sup>96</sup> Campion, though wary of  
chronological inconsistencies, nonetheless advanced astrological allusions where  
written support was scant and contested; seeing the Israel tribes as alluding to  
the solar cycle, the First Temple built in response to an eclipse, and the Israelites  
involved in Saturn worship during their wilderness trek.<sup>97</sup> Similarly, his  
suggestion that the prophets viewed G-d as 'identical to the Egyptian god [...] who  
was both supreme creator and represented by the sun-disc', merely because he is  
described as shining like the sun, lacked scriptural support.<sup>98</sup>

Jeffers, too, saw astrological allusions in various Biblical texts based on textual  
proofs that were either negligible or none existent; for instance, seeing Josh 10.12,  
13 as an 'astrological prayer invoked to defeat Israel's enemies' and I Sam 9.25 as  
'a possible allusion to divination through the heavenly phenomena'.<sup>99</sup>

An extreme example of this school was Joel C. Dobin (1926-2012), whose work,  
which, though directed at a lay audience, has been frequently referenced by schol-  
ars, suffered from exaggerated claims and suggestions that were often anachro-  
nistic.<sup>100</sup> Similar to Jeremias' panbabylonistic approach that used the precession  
of the equinoxes and the zodiac in the third millennium BCE to explain Biblical  
text, though neither concept existed at that time, Dobin posited the Bible as a  
template of Hellenistic astrology, including finding references therein to  
astrocartography (locational astrology), progressions and astrological houses.<sup>101</sup>

<sup>96</sup> For example, Kocku von Stuckrad, *Frömmigkeit und Wissenschaft: Astrologie in Tanach, Qumran und früh-rabbinischer Literatur* (Peter Lang: Frankfurt a. M.: 1996), p. 93.

<sup>97</sup> Von Stuckrad, *Frömmigkeit und Wissenschaft* Part II, Chap. 1:1, p. 88; Campion, *History of Western Astrology, Vol. 1*, pp. 116, 117, 120. Even the apparent reference to Saturn worship in Amos 5.26 has been contested; see, e.g., R. Borger, 'Amos 5,26, Apostelgeschichte 7,43 und Surpu II, 180', *Zeitschrift für die Alttestamentliche Wissenschaft*, edited by Jürgen van Oorschot, Jan Christian Gertz, Sebastian Grätz, Uwe Becker (1988; vol. 100, issue 1), pp. 708-81, online at <http://dx.doi.org/10.1515/zatw.1988.100.1.70>, [acc. 16<sup>th</sup> Dec. 2018]; cf. Gert J. Steyn, 'Trajectories of Scripture Transmission: The case of Amos 5:25-27 in Acts 7:42-43', *HTS Teologiese Studies / Theological Studies* (Vol 69, No 1, 2013), pp. 1-9.

<sup>98</sup> Ibid.

<sup>99</sup> Jeffers, *Magic*, pp. 152-3.

<sup>100</sup> Joel C. Dobin, *The Astrological Secrets of the Hebrew Sages: To Rule Both Day and Night* (Inner Traditions; First Paperback Printing edition, 1983), pp. 39-49. E.g., that Jacob's sons correspond to the Zodiacal twelve signs with their associated Hellenistic character attributions: This is only an academic criticism; from a religious viewpoint, the Bible can hint at ideas voiced millennia subsequent to its canonisation.

<sup>101</sup> Dobin, *Astrological Secrets*, pp. 121, 163; Jeremias, *Old Testament in Light of the Ancient East*, p. 28, quoted in Otto E. Neugebauer, *The Exact Sciences in Antiquity* (Dover Publicat. Inc.; 1969), pp. 138-139.

Ari Storch, a more recent example of this genre, saw entire Biblical narratives reflected in the constellations.<sup>102</sup> Following the lead of the 11<sup>th</sup> century late Midrash, *Pesiqta Zutra*, Storch read Hellenistic astrological characteristics of the twelve signs of the Zodiac into the Bible's account of the twelve sons of Jacob.<sup>103</sup> Indeed, both Dobin and Storch's approach was comparable to that of the Midrash, a form of rabbinic exegesis that often evoked contemporaneous astrological lore to interpret passages in the Pentateuch.<sup>104</sup>

## Summary

In summation, the following opinions were noted apropos astrology in the Bible: an absence of astrological belief, belief in astral omens, a rudimentary astrology, Biblical prohibitions against astral religion and astrological practice, aspects of astrology and/or astrolatry underlying Biblical discourse, and an astrological worldview.

## ASTROLOGY IN THE TALMUD

### No Astrological Belief

In the academic world, the Talmud suffered a similar fate to the Bible, though not as drastic. That astrology was looked down upon in the Christian world was demonstrated in the 16<sup>th</sup> century Christian censor on the Talmud that changed the term for idolatry, *avodah zoroh* (lit. strange worship, meaning, anything other than monotheistic worship), to *avodath kokhavim umazoloth* (lit., 'worship of stars and constellations', abbreviated to *akum*), to separate the Christian religion from astrolatry.<sup>105</sup> This had the additional effect of creating the illusion that the Talmud's conception of foreign religious worship was specifically astral worship and that the Talmud wholesale rejection of idolatry centred on astrolatry.

Although Morton Smith (1915-1991) saw Hellenistic culture as shaping the structure of much rabbinic thought, and Henry Fischel (1913-2008) reflected whimsically that 'the Pharisees may have been the most Hellenized group in

<sup>102</sup> Ari Storch, *The Secrets of the Stars* (Israel Bookshop Publications: 2011), pp. 31-43.

<sup>103</sup> Storch, *Secrets of the Stars*, pp. 61-122; Tuviah ben Eli'ezer of Kastoria, *Midrash Leqach Tov (Pesiqta Zutra)*, edited by Solomon Buber (Vilna, 1884).

<sup>104</sup> *Midrash Rabbah* (E. Hallevy: Tel Aviv; 1956-63). See, e.g., *Bereishith Rabbah*, iic.20 (p. 366), that saw a reference to the star Axilla of the Sagittarius constellation, with its Hellenistic attributes, in Gen. 49.24.

<sup>105</sup> G. Prebor, '*Sepher ha-ziquq*' by Domenico Yerushalmi (1555-1621) and its influence on Hebrew printing (PhD thesis: Ramat Gan: Bar Ilan University, 2003), p. 287.

Judea', regarding astrology in the Babylonian Jewish culture of Late Antiquity, Manfred R. Lehmann (1922–1997) wrote in 1975, 'discussions in the Talmud (*Bavli*, Shabboth, 156b) notwithstanding', 'astrology never got a foothold in Judaism, since it was [...] fraught with sectarian overtones'.<sup>106</sup> This outlook was typical of that period (the twentieth century), until 1977, when Charlesworth trailblazed a new perception in the Talmudic meta-dialogue.<sup>107</sup>

According to both Charlesworth and Stuckrad, the afore-mentioned consensus was an *a priori* assumption that led to 'an astonishing disregard' of relevant sources.<sup>108</sup> In Jonathan Z. Smith (1938–2017) words, the periphery of a perceived centre was 'seen as threatening, relative differences perceived as absolute "other"', resulting in 'exorcism or purgation, not scholarship'.<sup>109</sup>

## Astrological Belief

Modern scholarship was basically in agreement that the astral belief system of surrounding cultures did impinge upon the corpus of Judaic literature of Late Antiquity. Writing in 2012, Jeffrey L. Rubenstein was able to comment that '[i]t has long been recognized that the rabbis in general, and the bT in particular, accept the fundamental veracity of astrology'.<sup>110</sup> Nevertheless, some scholars were still wary of seeing a strong influence of astrology in the Talmud, as will be seen in this section. How far the Talmud subscribed to astrological beliefs, whether there is an essential difference between the Tanach's and the Talmud's approach and the extent of that difference, remained a subject of academic debate.

## Rabbinic Ambivalence

<sup>106</sup> Morton Smith, 'Palestinian Judaism in the First Century', *Israel: Its Role in Civilization*, ed. by M. Davis (New York, 1956), p. 71; Henry A. Fischel, 'Story and History: Observations in Greco-Roman Rhetoric and Pharisaism', *American Oriental Society, Middle West Branch, Semi-Centennial Volume* (1969), ed. by D. Sinor, p. 82; Manfred R. Lehmann, 'New Light on Astrology in Qumran and the Talmud', *Revue de Qumrân*, Vol. 8, No. 4 (32) (December 1975), pp. 599–602, pp. 599, 602.

<sup>107</sup> Jeffrey L. Rubenstein, 'Talmudic Astrology: Bavli Šabbat 156a—b', *Hebrew Union College Annual* (Hebrew Union College: Vol. 78; 2007: pp. 109–148) p. 109; Charlesworth, 'Jewish Astrology in the Talmud'. However, cf. Jacob Neusner, *A History of the Jews in Babylonia* (5 vols.; Leiden: Brill, 1965–70) vol. 2, pp. 85–87, 140–43, vol. 4, pp. 190–94, vol. 5, pp. 330–34; Ephraim Urbach, *The Sages: Their Concepts and Beliefs*, translated by Israel Abrahams (Jerusalem: Magnes, 1979 [1969]) pp. 275–278.

<sup>108</sup> Charlesworth, 'Jewish Astrology in the Talmud', pp. 183–200; Stuckrad, 'Jewish and Christian Astrology in Late Antiquity', p. 1.

<sup>109</sup> Jonathan Z. Smith, *Drudgery Divine. On the Comparison of Early Christianities and the Religions of Late Antiquity* (Chicago: University of Chicago Press, 1990), p. 143. In this case, the fact that astrology had been taken seriously by Judaism, threatened academia's notion of Western civilisation.

<sup>110</sup> J. L. Rubenstein, 'Astrology and the Head of the Academy', *Shoshannat Yaakov: Jewish and Iranian Studies in Honor of Yaakov Elman* ed. Shai Secunda, Steven Fine (Leiden: Brill, 2012: pp. 303–321) p. 312.

According to Altmann, the majority of Talmudic sages believed in celestial influence but questioned astrology's accuracy in predicting events.<sup>111</sup> Both Leicht and Lobel understood rabbinic Late Antique Judaism as maintaining an ambivalent attitude toward astrology.<sup>112</sup> This was reflected in Charlesworth on the one hand stating that '[a]strological beliefs are frequently rejected in rabbinic writings' and on the other hand agreeing with Ephraim E. Urbach (1912-1991) that belief in the validity of astrology was 'shared by Tannaim and Amoraim alike'.<sup>113</sup>

### Association with Power

Rather than seeing acceptance of astrology as integral, innately bound with the Talmudic worldview, Jacob Neusner (1932-2016), Kimberly Stratton (separately) and latterly, Lobel, ascribed the apparent Phariseal embrace of astrological belief to its association with power and the ancient past, which provided 'sufficient incentive to allow astrology to be integrated into Judaism' despite the [...] ambivalence surrounding its incorporation'.<sup>114</sup> This approach, however, appeared to be rejected by both Kalmin and Rubenstein, who maintained the rabbinic interest in astrology to have been an integral part of their (possibly religious) interest and association with the sciences.<sup>115</sup>

### Unified, Polarised, or 'Soft' Dichotomy

Whereas both Champion and Yuval Harari understood that, according to the Talmud, by following Torah law, one would rise above planetary influence and 'above all, according to Rabbi Yohanan, *Ein mazol le'Israel* [...] – only G-d can directly determine the future of the Children of Israel', Charlesworth, Altmann and Bar-Ilan (separately) saw Talmudic opinion as polarised, one school teaching that 'Israel stands under astrological influence', and the other that 'Israel is immune from astrological influence'.<sup>116</sup> This position was largely based upon

<sup>111</sup> Altmann, 'Astrology', p. 789.

<sup>112</sup> Leicht, 'Jewish Astrology', p. 873-4; Lobel, 'From Babylon to Jerusalem', p. 91.

<sup>113</sup> Charlesworth, 'Jewish Astrology in the Talmud', pp. 185-188, 199; Ephraim Elimelech Urbach, *The Sages: Their Concepts and Belief* (Magnes Press, Israel, 1975), p. 277.

<sup>114</sup> Lobel, 'Babylon to Jerusalem', p. 101; Lobel, *Under a Censored Sky: Astronomy and Rabbinic Authority in the Talmud Bavli and Related Literature* (PhD thesis; Concordia Univ. Montreal, Canada, 2015); Jacob Neusner, 'Rabbi and Magus in Third-Century Sasanian Babylonia', *History of Religions*, vol. 6, no. 2: 1966): p. 170; Kimberly Stratton, 'Imagining Power: Magic, Miracle, and the Social Context of Rabbinic Self-Representation', *Journal of the American Academy of Religion*, vol. 73, no. 2 (2005): p. 366.

<sup>115</sup> Kalmin, 'Problems in the use of the Babylonian Talmud for the History of Late Roman-Palestine', pp. 170, 179; Rubenstein, 'Talmudic Astrology', p. 110.

<sup>116</sup> Champion, *History of Western Astrology*, 1, p. 125; Yuval Harari, 'The Sages and the Occult', *The Literature of the Sages* (Leiden, The Netherlands: Brill: 2006), pp. 562-3; Altmann, 'Astrology', p. 790;

their understanding of the main *sugya* in which the dictum *ein mazol le'Yisro'el* (lit. 'there is no *mazol* for Israel') largely appears, the bT *classicus locus* of astrology, tractate Shabbath f. 156f.

In contradistinction, Gregg Gardner, Rubenstein and Kalmin separately argued that the aforementioned *sugya* is unparalleled in the Talmud and, moreover, is clearly of Palestinian provenance; hence, it cannot be viewed as indicative of the opinion of the Sasanian *amoro'im*.<sup>117</sup> Conversely, Stuckrad overlooked the Palestinian provenance of the *sugya*, maintaining that the Palestinian Jews were little affected by astrology.<sup>118</sup>

According to Gardner, with the exception of the apothegm *ein mazol le'Yisro'el*, which was (according to Gardner) an addition latterly incorporated by the redactors, the *sugya* overridingly accepted the veracity of astrology.<sup>119</sup> Similarly, Rubenstein was of the opinion that *ein mazol le'Yisro'el* was inserted later into the *sugya* by the redactors to present an anti-astrological message.<sup>120</sup> Kalmin, on the other hand, opined that the notion 'Israel has no *mazol*' was a foreign concept adopted by the Talmud during the fourth century; the anonymous redactors then presented an anthology of diverse opinions in the form of tannaic legends, without offering a sustained opinion on astrology's efficacy.<sup>121</sup>

Altmann, Campion, Gardner and Charlesworth's (separate) simplistic reading of the dictum, *ein mazol le'Yisro'el*, that 'Israel is immune from astrological influence' providing they fulfil G-d's commandments, was challenged separately by Kalmin, Rubenstein and Stuckrad, who maintained that the dictum does not preclude astrological influence but merely alters its remediability.<sup>122</sup> This opinion

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Charlesworth, 'Jewish Astrology in the Talmud', pp. 185-188; Meir Bar-Ilan, 'Astrology in Ancient Judaism'. The Talmudic dictum, *אין מזל לישראל* - *ein mazol le'Yisro'el* - 'there is no *mazol* for [the people of] Israel', appears in the Talmud's *classicus locus* of astrology - tB Shabbath f.156, and is discussed later.

<sup>117</sup> Gregg Gardner, 'Astrology in the Talmud: An Analysis of Bavli Shabbat 156', *Heresy and Identity in Late Antiquity*, ed. by Eduard Iricinschi and Holger M. Zellentin (Tübingen: Mohr Siebeck, 2008; pp. 314-38), pp. 325, 338; Kalmin, 'Chapter 7: Astrology' in *Migrating Tales*, p. 175-86; Rubenstein, 'Talmudic Astrology', pp. 119-20.

<sup>118</sup> 'Die palästinischen Juden wurden von der Astrologie wenig berührt; nur die Bekanntschaft mit babylonien, dem 'Mutterland' der Sternkunst, hat ein Klima schaffen können, das zur Aufweichung der jüdischen Abgrenzung führte': Stuckrad, *Das Ringen*, p. 504.

<sup>119</sup> Gardner, *Ibid*.

<sup>120</sup> Rubenstein, 'Talmudic Astrology', pp. 119-20; Kalmin, *Migrating Tales*, p. 182.

<sup>121</sup> Kalmin, *ibid*. Kalmin, e-mail message to author, 24<sup>th</sup> Dec. 2018.

<sup>122</sup> Gardner, 'Astrology in the Talmud'; Charlesworth, 'Jewish Astrology in the Talmud', pp. 185-188; Campion, *History of Western Astrology*, I, p. 125; Rubenstein, 'Talmudic Astrology', pp. 119-20; von Stuckrad, *Das Ringen*, pp. 478-80; Kalmin, *Migrating Tales*, p. 182; Kalmin, 'A Late Antique Babylonian Rabbinic Treatise on Astrology', *Shoshannat Yaakov: Jewish and Iranian Studies in Honor of Yaakov Elman*, edited by Shai Secunda and Steven Fine (Brill, 2012), p. 177.



was echoed by Francis Schmidt who quoted Stuckrad.<sup>123</sup>

The apparent Talmudic dichotomy was further ameliorated in Stuckrad's approach. Comparable to both Wright and Zatelli's understanding that the Bible harmonises or reinterprets astral cultic ideas, Stuckrad saw the Jewish discourse of astral magic and astrology in Late Antiquity adopting and transforming magical theory and practice.<sup>124</sup> This was part of the Talmud's attempt to amalgamate religious tradition and 'contemporary social, political, scientific and religious negotiations', which resulted in a synthesis of astrology and monotheism.<sup>125</sup>

Stuckrad's assessment echoed Charlesworth's opinion that the Jewish sages of Late Antiquity borrowed and recast pagan ideas 'in light of Jewish traditions'.<sup>126</sup> However, whereas Charlesworth saw this as happening towards the end of the first millennium B.C.E, Stuckrad claimed, however, that this was a specific rabbinic structure of discourse that attained a hitherto unobtained level in the Babylonian Talmud.<sup>127</sup>

### An Astrological Worldview

Most importantly, rather than seeing astrology of the ancient world as a singular divinatory discipline, Stuckrad classified astrology as an 'integral component of ancient culture', a way of interpreting reality that embraced the 'doctrine of correspondences', 'the backbone of esoteric tradition'.<sup>128</sup> According to Stuckrad, this world-view permeated rabbinic thinking to such an extent that it resulted in the study of astrological science being seen as a Biblical command.<sup>129</sup>

Similarly, Neusner advised, that 'magic, astrology, and occult sciences [...] were regarded as advanced sciences[;] to reject them, would have [been] to ignore the most sophisticated technological attainments of contemporary civilization'.<sup>130</sup>

<sup>123</sup> Francis Schmidt, 'Horoscope, Predestination and Merit in Ancient Judaism', *Culture and Cosmos*, (Sophia Centre Press: Vol. 11, nos. 1 and 2; 2007: pp. 27-41), pp. 34-5.

<sup>124</sup> Zatelli, 'Astrology and the Worship of the Stars in the Bible', p. 87; Wright, *The Early History of Heaven*, pp. ix-x, 3, 185; Stuckrad, 'Astral Magic in Ancient Jewish Discourse', p. 248-51.

<sup>125</sup> Stuckrad, 'Astral Magic in Ancient Jewish Discourse', p. 248-51.

<sup>126</sup> Charlesworth, 'Jewish Interest in Astrology', p. 927.

<sup>127</sup> Charlesworth, 'Jewish Interest in Astrology', p. 927; Stuckrad, 'Astral Magic in Ancient Jewish Discourse', p. 248-51; Stuckrad, 'Jewish and Christian Astrology', p. 7; Stuckrad, *Das Ringen um die Astrologie: Jüdische und christliche Beiträge zum antiken Zeitverständnis* (Berlin & New York: Walter de Gruyter 2000), p. 485: 'Die Synthese von Astrologie und Monotheismus [...] kann als spezifische rabbinische Diskursstruktur aufgefaßt werden, die ein bis dahin nicht erreichtes Reflexionsniveau im Bavl zu erkennen gibt.' (The reference is my paraphrasing.)

<sup>128</sup> Stuckrad, 'Jewish and Christian Astrology', pp. 1, 5, 6; 'Astral Magic in Ancient Jewish Discourse', pp. 248-51.

<sup>129</sup> Stuckrad, *Das Ringen*, p. 487: 'Die astrologische Wissenschaft wird als biblisches Gebot aufgefaßt'.

<sup>130</sup> Jacob Neusner, 'How Much Iranian in Jewish Babylonia?', *Journal of the American Oriental Society*,

Moreover, besides a legitimate science and a necessary discipline, astrology was seen by the Talmud as a tool of the Creator, its study fulfilment of one's religious duty to know G-d.<sup>131</sup>

Stuckrad further suggested that the Biblical and Talmudic criticism of astrolatry, 'freed the way to engaging with astrology': once there was a clear division between cult and astrology, rabbinic interest could 'safely' involve itself with star interpretation, without risk of it being confused with astrolatry.<sup>132</sup>

Campion reached a similar conclusion, namely that since 'the link between astrology and astrolatry had been broken', astrology was able to be integrated into rabbinic Judaism, such that it became 'a normal part of the majority worldview'.<sup>133</sup> Thus, even the Talmudic debate concerning astrology's validity is discussed within a wholly-accepted framework of Aristotelian cosmology that assumes celestial influence of the sublunar sphere.<sup>134</sup>

## Summary

In conclusion, academia was divided as to how the Talmud viewed astrology. Opinions included: ambivalence, clearly polarised positions, a soft dichotomy, an overriding acceptance of astrology, and a cultural worldview that embraces essential doctrines common to the astrology of that era. This study's textual analysis will explore the relevance and veracity of these opinions.

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Vol. 95, No. 2 (Apr. - Jun., 1975), pp. 189-190.

<sup>131</sup> Jacob Neusner, 'Rabbi and Magus in Third-Century Sasanian Babylonia', *History of Religions* (Issue 6, no. 2: 1966), p. 171-2; Kimberly Stratton, 'Imagining Power: Magic, Miracle, and the Social Context of Rabbinic Self-Representation', *Journal of the American Academy of Religion* (Oxford University Press: Vol. 73, No. 2, 2005), pp. 361-393.

<sup>132</sup> Stuckrad, *Das Ringen*, pp. 485, 503 ('Man könnte sogar sagen, dass die Kritik an der Verehrung der Gestirne den Weg frei machte, sich umso intensiver mit der Astrologie befassen zu können ...'; 'Sobald diese gebannt schien, konnte sich auch das rabbinische Interesse wieder der Sterndeutung zuwenden'); 'Jewish and Christian Astrology in Late Antiquity', p. 14.

<sup>133</sup> Campion, *History of Western Astrology*, Vol. 1, pp. 124-5.

<sup>134</sup> Campion, *History of Western Astrology*, Vol. 1, p. 125.

## CHAPTER 3: FINDINGS AND DISCUSSION

### Introduction

Various categories of astrological import, and degrees of astrological nuance, were noted in the Review of Previous Work. These will now be discoursed, based on contextual and intertextual analysis of the Biblical and Talmudic texts.

The following is not a systematic examination of all the evidence. Space does not allow for an exhaustive survey. Rather the aim of this study is to present a close reading of selected, relevant texts, which, when combined and assimilated, will enable the presentation of a nuanced picture of the nature of the astrology referenced in those texts. Thus, though this section will debate opinions that suggest the presence of astrological influence and nuance in various passages, it will not address those suggestions that are perceived to be highly speculative and lacking any real textual basis.

After analysing the texts, the astrological content and outlook of the Tanach will be compared to, and contrasted with, that of the Talmud. The aim of this comparison is to examine two issues. First, if and how the astrology content differs between the texts. Second, if and how their approaches differ with respect to their acceptance of astrological belief/s, with special attention to any theological adjustment (possibly due to the cultural milieu). Based upon those findings, suggestions will be advanced, vis-a-vis the diachronic development of Judaic culture and theology.



## SECTION 1: ASTROLOGY IN THE BIBLE

**Astrolatry and astral divinities**

This section will investigate Biblical allusions to astral divinities in the sphere of their association with the stars and planets, as opposed to those allusions to astral deities that did not directly reference the celestial bodies, and as opposed to technical terms for constellations or stars. Additionally, it will dwell predominantly on aspects of astrolatry that possibly influenced and were integrated into the Bible's monotheistic (or monolatrist) ideology.

**ECLIPSES AS OMENS**

The use of the term *othoth* 'signs', sing. *oth* 'sign') in the verse (Genesis 1.14), 'Let there be luminaries [...]; they shall be for signs, and for appointed times, and for days and years', is possibly the first astrological reference in the Pentateuch.<sup>135</sup> The word *oth* (*oth*) bears a familial resemblance to its Akkadian equivalent *ittu* ('sign', or, as translated by Rochberg, 'the ominous sign') and the Ugaritic *at* ('sign'), the term used by the ancient Mesopotamians to imply signs 'brought about through divine agency' as 'a manifestation of the gods' concern for human beings', as evident throughout the Babylonian diviner's manual.<sup>136</sup> Indeed, the Midrash and the medieval commentators assumed this verse's use of the term 'signs' to refer to solar and lunar eclipses, omens that were alleged to presage an approaching tragedy.<sup>137</sup> Thus, the Sifre (an early Midrash) on Deut. 13.2,3, interpreted the *oth* ('sign') given by the false prophet to validate his prophecy, as referring to a predictive and informative sign in the heavens, cross-referencing to the above verse in Genesis 1.14.<sup>138</sup>

Perhaps a parallel to this verse can be seen in the Sumerian introduction to

<sup>135</sup> See Gerhard von Rad, *Genesis – a commentary*, transl. by John H. Marks (Philadelphia: Westminster, 1973), p. 56.

Gen. 1.14: '[...] "Let there be luminaries in the expanse of the heavens to divide the day from the night, and they shall be for signs, and for appointed times, and for days and years".'

<sup>136</sup> F. Rochberg, *The Heavenly Writing*, pp. 36, 206. See also: Ignace J. Gelb, Benno Landsberger, A. Leo Oppenheim, *The Assyrian Dictionary of the Oriental Institute of Chicago* (Oriental Institute, Chicago, Illinois, 1960), Vol. 7, pp. 304-10; Oppenheim, 'A Babylonian Diviner's Manual', *Journal of Near Eastern Studies* (Vol. 33, No. 2, 1974, pp. 197-220), p. 207; F. Rochberg-Halton, 'Elements of the Babylonian Contribution to Hellenistic Astrology', *Journal of the American Oriental Society*, (AOS: Vol. 108, Issue 1: 1988, pp. 51-62), p. 52; Hermann Hunger and David Edwin Pingree, *Astral Sciences in Mesopotamia* (Brill, 1999), p. 6; Amar Annus, 'On the Beginnings and Continuities of Omen Sciences in the Ancient World', *Divination and the Interpretation of Signs*, ed. by A. Annus (Oriental Institute of the University of Chicago, 2010), p. 13; Gregorio del Olmo Lete, Joaquín Sanmartín, *A Dictionary of the Ugaritic Language in the Alphabetic Tradition* ed. and transl. by Wilfred G. E. Watson (Brill, 2015, Vol. 1), p. 117.

<sup>137</sup> Midrash Aggadah (Buber, Vienna, 1894), 1.14.

<sup>138</sup> Sifre Deut. 83.4, available online at [https://he.wikisource.org/wiki/ספרי\\_על\\_דברים](https://he.wikisource.org/wiki/ספרי_על_דברים), acc. 31<sup>st</sup> Dec. 2018.

the canonical version of *Enuma Anu Enlil* (circa late 2<sup>nd</sup> millennium BCE), where ‘sign’ is likewise mentioned in connection with the mythical creation of the moon:

When An, Enlil and Enki, the great gods, through their immutable council, had established the great ordinances of heaven and earth and the boat Suen, (and) stared at the constantly shining crescent, the birth of the month, and the signs of heaven and earth.<sup>139</sup>

As the *Enuma Anu Enlil* is ancient Mesopotamia’s definitive collection of celestial omens, it is likely that its reference to the ‘signs of heaven and earth’ apropos the moon is indeed referring to the moon’s omens.<sup>140</sup> However, to interpret the term *אוֹתוֹת* (*othoth*) in Genesis 1.14 as referring to celestial omens is problematic, as all the other articles listed in that section of the verse refer either to moments or units of time. ‘Days’ and ‘years’ are both units of time, and the noun *מוֹעֲדִים* (*mo’adim*, ‘fixed’ or ‘appointed times’) refers to calendrical instances, as, for example, Genesis 18.14: *למועד אשוב אליך* – ‘At this fixed time I will return to you’.<sup>141</sup>

Moreover, throughout the Bible, the luminaries are referred to by their names, usually *שֶׁמֶשׁ* (*shemesh* ‘sun’) and *יָרֵחַ* (*yorai’ach* ‘moon’). This pericope (Gen. 1.14–17) is unique in that it does not name the luminaries but calls them by a descriptive noun, *מְאֹרוֹת* (*me’oroth*, ‘luminaries’). Indeed, the term *מְאֹרוֹת* (*me’oroth*) in reference to the luminaries is a Biblical *hapax legomenon*. As the Bible’s most common names for the sun and moon – respectively, *שֶׁמֶשׁ* (*shemesh*) and *יָרֵחַ* (*yorai’ach*) – correspond to the names of the Canaanite sun god (*shamash*) and moon god (*yorich*), by not using these names, the text reveals a conscious effort to avoid any implication of astral worship.<sup>142</sup>

<sup>139</sup> ‘*u<sub>4</sub> an<sup>d</sup> en-1i1-Ia<sup>d</sup> en-ki dingir gal-gal-la galga-ne-ne-ta me gal-gal-la anki-a ma-gur<sub>8</sub><sup>d</sup> zuen-na mu-un-gi-ne-eš u<sub>4</sub>-sar mû-mû-da iti ù-tu-ud-da ù giskim an-ki-a mu-un-gi-ne-d and gur<sub>8</sub> an-na im-pa-è aka-a-dè šà anna igi-bar-ra-ta è*’; Charles Virolleaud, *L’Astrologie chaldéenne: le livre intitulé "Enuma (Anu ilu) Bel"*, (P. Geuthner, 1912) Vol. 4, Prts. 1-2, also, Leonard W. King, *Enuma Elish: The Seven Tablets of Creation; The Babylonian and Assyrian legends concerning the creation of the world and of mankind*, Vol. 2, (Cosimo 207), pl. xlix 1-14, quoted by Koch-Westenholz, *Mesopotamian Astrology*, p. 77, with the following translation: ‘When An, Enlil and Enki, the great gods, by their decision established the eternal order of heaven and earth and the boat of Suen, the new moon to wax, to give birth to the month and the sign of heaven and earth’. Translation in paper from J. L. Cooley, Ch. 3, ‘Celestial Science in Mesopotamian Literature’, *Poetic Astronomy in the Ancient Near East: The Reflexes of Celestial Science in Ancient Mesopotamia, Ugaritic and Israelite Narrative* (Winona Lake, Indiana: Eisenbrauns; 2013), p. 113. Regarding the period of the tablets, see Koch, *Mesopotamian Astrology*, p. 42; *Afterword to Mesopotamian Astrology* (2010), p. 2.

<sup>140</sup> Wright, *Early History of Heaven*, p. 39.

<sup>141</sup> Cf. Cooley, *Poetic Astronomy*, p. 315.

<sup>142</sup> This conclusion was also reached by Richard Averbeck [in] ‘A Literary Day: Intertextual and Contextual

Furthermore, in contrast to the Mesopotamian creation myth in the *Enûma Eliš* (c. late second millennium BCE) where the god Anu is described as the deistic personification of the skies, there is no indication here, or in the entire Genesis creation story, that the skies were deistic, or were to be considered as the realm of the Deity, or even that signs therein were to represent the ontological subordination and subjugation of the celestial powers under the will of G-d.<sup>143</sup> The intention is clear: far from a theogony (a mythical account of the creation of gods), the celestial bodies are neither gods nor manifestations thereof nor even celestial manifestations of the Supreme G-d; they are physical bodies, G-d's creation under His control.<sup>144</sup> John Currid, who reached a similar conclusion, saw this deliberate break from a theogonic tradition as indicative of a 'conscious polemic against other ANE cultures'.<sup>145</sup>

Evidently, rather than divine signs, the verse's syntax and context dictate that *othoth* be construed as a reference to astronomical events; to wit, that the luminaries' observable periodic movements and positions shall be used as visual markers of time.<sup>146</sup> That the word *אוֹת* (*oth* 'sign') can refer to a visual marker can

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Reading of Genesis 1-2', *Reading Genesis 1-2: An Evangelical Conversation* ed. by J. Daryl Charles, (Peabody, Mass: Hendrickson, 2013, pp. 7-34), p. 23. See also, E. Lipinski, 'Shemesh', *Dictionary of Deities and Demons in the Bible*, ed. by Karel van der Toorn, Bob Becking, Pieter Willem van der Horst (William B. Eerdmans Publishing Company; Grand Rapids, Michigan: 1999 - second ed.), p. 966. Regarding the names of the Canaanite gods, see K. L. Noll, *Canaan and Israel in Antiquity: An Introduction*, (The Biblical Seminar. London: Sheffield Academic Press, 2004), p. 245; Sarah Iles Johnston, *Religions of the Ancient World: A Guide*, (Cambridge: Harvard University Press, 2001), p. 418; Nick Wyatt, *Religious Texts from Ugarit: The Words of Ilmilku and His Colleagues*, (Sheffield Academic Press: 1998), p. 336; Alexander Heidel, *The Babylonian Genesis: The Story of Creation*, (University of Chicago Press, 1951), p. 117.

<sup>143</sup> L. W. King, *Enuma Elish: Volume 1: The Seven Tablets of Creation*, Tablet 1, line 9 (also, p. LXXII); John H Rogers, (1998), 'Origins of the Ancient Astronomical Constellations: I: The Mesopotamian Traditions', *Journal of the British Astronomical Association*, (London, England: The British Astronomical Association, Vol. 108, Is. 1; pp. 9-28), p. 13; Heidel, *Babylonian Genesis*, pp. 13-14; Edwin Oliver James, *The Worship of the Sky-god: A Comparative Study in Semitic and Indo-European Religion*, (Athlone Press, 1963), p. 23; W. G. Lambert, 'The Cosmology of Sumer and Babylon', *Ancient Cosmologies*, ed. by C. Blacker and M. Loewe (London: Allen and Unwin, 1975), pp. 51-54; Francesca Rochberg, "The Stars and their Likenesses", p. 83. See also, Black and Green, *Gods, Demons and Symbols*, p. 94.

<sup>144</sup> See Heidel, *Babylonian Genesis*, p. 97; cf. Zatelli, 'Astrology and the Worship of the Stars', p. 88.

<sup>145</sup> John D. Currid, *Against the gods: The Polemical Theology of the Old Testament* (Crossway, 2013), pp. 45-46. See also: Peter Enns, *Inspiration and Incarnation: Evangelicals and the Problems of the Old Testament* (Grand Rapids, MI: Baker, 2005), p. 27; Bruce K. Waltke, *An Old Testament Theology* (Grand Rapids, MI: Zondervan, 2007), pp. 197-203.

<sup>146</sup> J. S. Wright, 'Astrology', *The International Standard Bible Encyclopedia*, ed. by Geoffrey William Bromiley; associate eds., Everett F. Harrison, Roland K. Harrison, (Grand Rapids, Mich.: W.B. Eerdmans, 1979; pp. 342-343), p. 342; Michael Fishbane, 'The Biblical 'Oth', *Shnaton HaMiqra* [שנתון המקרא] 1976, pp. 213-233), p. 213, fn. 1; Zatelli, 'Astrology and the Worship of the Stars in the Bible', p. 88; cf. Nahum Sarna, *JPS Torah Commentary: Genesis* (The Jewish Publication Society: 2001), p. 9; August Dillmann, *Genesis critically and exegetically expounded*, (Edinburgh: T. & T. Clark; 1897), p. 72.

be seen in Joshua 4.10, Isaiah 5.9, 20.2, and Ezekiel 39.15.<sup>147</sup>

Though Campion claimed that there was textual evidence that G-d was expected to announce the oncoming of events through celestial omens such as eclipses, there is little indication that the prophets actually foretold eclipses, or referred to unusual astral occurrences as omens.<sup>148</sup> The one or two exceptions will be discussed below.

Jeremiah seemingly did not interpret eclipses as omens, as he told the Jewish people (Jer. 10.2, 3) that they should take no heed of אותות השמים (*othoth hashomayim* ‘signs of the heavens’) as they count for nothing.<sup>149</sup> Moreover, as Cooley argued, from the context and grammar of these verses it is apparent that celestial divination was entirely alien to the Israelites; rather than ‘a polemical characterization of a rejected native Canaano-Israelite tradition’, it was ‘a rejection of a truly foreign practice’.<sup>150</sup>

However, it is difficult to interpret *othoth hashomayim* as a reference to mere physical phenomena. If, as McKay has suggested, the prophet was merely referring to extraordinary natural phenomena without reference to their inauspicious nature, then the term *othoth* (‘signs’) in that context has no clear meaning.<sup>151</sup> The concept of ‘sign’ denotes an object whose externality points to another unexpressed significance.<sup>152</sup> It is clear the author was not referring to visual markers of time. Thus, this verse presented a paradox. On the one hand, it ostensibly dismissed the validity of celestial omens. On the other hand, Jeremiah was unambiguously calling those phenomena ‘omens’ – possibly the only occasion in Tanach where *othoth* (‘signs’) must have meant omens.

Cooley pointed out that *othoth hashomayim* (‘signs of the heavens’) was an imported concept, evidence of the infiltration of foreign ideas and nomenclature.<sup>153</sup> However, there was a suggestive ambivalence inherent in Jeremiah’s use of the term. This may have been the seed that allowed later rabbinical exegesis to

<sup>147</sup> Robert Cantor, ‘On the concept of “sign” in the Hebrew Bible’, *Journal of the International Association for Semiotic Studies* (Semiotica, Vol. 2018, Issue 221, pp. 105–121), pp. 113–119.

<sup>148</sup> Campion, *The History of Western Astrology*, Vol. 1, p. 116.

<sup>149</sup> Jer. 10.2,3: – אֶל־דֶּרֶךְ הַגּוֹיִם אֶל־תִּלְמְדוּ וּמֵאוֹתוֹת הַשָּׁמַיִם אֶל־תִּתְחַתּוּ... כִּי־חֻקֹּת הָעַמִּים הֶבֶל הוּא – ‘From the ways of the nations do not learn and from the signs of the heavens be not dismayed ... For the habits of the peoples are emptiness’.

<sup>150</sup> Cooley, ‘Celestial Divination’, p. 27; Wright, *Early History of Heaven*, pp. ix-x, 3, 185.

<sup>151</sup> Cf. J. W. McKay, *Religion in Judah under the Assyrians*, p. 58.

<sup>152</sup> See Cantor, ‘On the concept of “sign”’, pp. 106–110.

<sup>153</sup> Cooley, ‘Celestial Divination’, p. 27.

<sup>162</sup> Cf. Ezekiel 32.7: וְכָסִיתִי בְּכוֹחוֹתַי שָׁמַיִם וְהִדְרֹתַי אֶת-לְבָבֵיהֶם שָׁמַשׁ בַּעָנָן וְאֶכְסֹנוּ וַיִּרְם לֹא-יֵאָרֵר אוֹרוֹ: (7) I will cover the heavens with your smoke, and I will darken their stars; I will cover the sun with a cloud and the moon will not shine its light. כָּל-מְאֹרוֹי אוֹר בַּשָּׁמַיִם אֶדְיִירָם עֲלֶיךָ וְנָתַתִּי חֹשֶׁךְ עַל-אֶרְצְךָ נְאֻם ד' (8) All the shining lights in the sky I will darken over you; and I will bring darkness upon your land, declares the L-rd G-d. (My translation adapted from [www.Chabad.org](http://www.Chabad.org) and [www.sefaria.org](http://www.sefaria.org) [acc. 19<sup>th</sup> Jan. 2019].)



observed in February 561 BCE.<sup>163</sup> However, the verse's general reference to 'the stars of heaven', as opposed to הכוכבים (*hakochovim* 'the stars'), which may have implied specific stars, the plural form of *k'silayhem* as well as the suffix, 'their *k'sils*', both of which imply that *k'sil* is directly associated with those stars or planets, makes Koch's reconstruction unlikely.<sup>164</sup>

Although Amos 8.9, in his eschatological prophecy, foretold that G-d will make the sun set at noon, its context indicates that portrayal as allegorical.<sup>165</sup> Furthermore, to interpret the image of the sun setting at noon as an eclipse is highly questionable, as a total eclipse lasts little longer than a few minutes.<sup>166</sup> In addition, as this is described as taking place in midday, the observer, of whatever culture or period, would scarcely confuse that with the setting of the sun.

Rather than translating Amos 4.13 (עֹשֶׂה שַׁחַר עֵיפָה) as 'He Who makes the dawn into darkness', as rendered in the KJV Bible, since the rest of the verse describes daily natural phenomena, both the context and syntax suggest it be translated, 'He who makes darkness into light', or 'He Who makes the [darkness of] dawn into glimmering light'.<sup>167</sup> Thus, instead of the verse implying an eclipse, it referred to the night turning into day (שַׁחַר *shachar* meaning here 'darkness': see Lev. 13.31; Isa. 23.3; Job 2.2; עֵיפָה *eiphoh* meaning 'glimmering light': see Job 3.9; 11.17).<sup>168</sup> It thus reflected a similar phrase that appeared later in Amos 5.8, 'and turns to daylight [lit. morning] deep darkness'.<sup>169</sup>

Admittedly though, Joel 3.4 may have been referring to an eclipse.<sup>170</sup> Indeed, the imagery of the sun turning into darkness, and his subsequent portrayal of a blood-moon in the same verse, indicated that the author was describing eclipses.<sup>171</sup> However, there is a vast difference between the astral omens of ancient Mesopotamia, where celestial phenomena were observed – or predicted – and

<sup>163</sup> Cooley, *Poetic Astronomy*, pp. 230-231, fn. 16.

<sup>164</sup> For further arguments against this reconstruction, see *ibid.*, *ad loc.*

<sup>165</sup> 'On that day, says the L-rd G-d, I will make the sun set at noon and will darken the land on a day of light'. See Rashi, Metzudath Dovid, Redaq, Malbim, *ad loc.*, s.v. והבאתי השמש בצהרים והחשכתי לארץ ביום אור.

<sup>166</sup> J. Meeus, 'The maximum possible duration of a total solar eclipse', *Journal of the British Astronomical Association* (Vol. 113, Issue 6: 2003, pp. 343-48), p. 343, available online at <http://adsabs.harvard.edu/full/2003JBAA..113..343M> [acc. 18<sup>th</sup> Jan. 2019].

<sup>167</sup> Shalom M. Paul, *Amos: A Commentary on the Book of Amos* (Fortress Press, Minneapolis: 1991) p. 155 (– Paul suggested the verse might have intended a double entendre).

<sup>168</sup> *Ibid.*, p. 155.

<sup>169</sup> והפך לפקד צלמנות

<sup>170</sup> Joel 3.4: (4) הַשֶּׁמֶשׁ יִהְיֶה לְחָשֶׁךְ וְהַיָּרֵחַ לְדָם לִפְנֵי בֹא יוֹם ה' הַגָּדוֹל וְהַנּוֹרָא: 'The sun shall turn into darkness and the moon into blood before the arrival of the great and awesome day of G-d'.

<sup>171</sup> *Ibid.*

apodoses given, to the Biblical predictions of phenomena as signs of Divine revelation.<sup>172</sup> The ancient Mesopotamians saw the planetary bodies as manifestations or agents of the deities' presence.<sup>173</sup> To the Mesopotamian mind, the phenomena were thus cryptic messages of the divine made manifest through their agents.<sup>174</sup> In contrast, Joel was not assigning meaning to the celestial bodies. To use Rochberg's phraseology, there was no 'if P, then Q'.<sup>175</sup> The darkening of the sun foretold in Joel was the result of an oncoming revelation, not a harbinger or omen thereof. It was a visual marker, not a portent.

In addition, though the various references to the sun darkening and the moon turning to blood can be interpreted metaphorically, the poetic imagery employed by the prophets, Joel, Amos and Isaiah, may conceivably have been drawn from their own experiences of solar and lunar eclipses, as a total solar eclipse, known as the Assyrian Eclipse, occurred over the Middle East, in the first half of the eighth century.<sup>176</sup>

In summary, the Pentateuch made absolutely no reference to an eclipse as an omen from G-d, and almost all allusions to eclipses in the rest of the Tanach are likely allegorical references to difficult times that were not related to celestial divination. The extensive use of astral symbolism may have merely reflected the impression caused by the constant exposure of the Biblical authors and their audiences to the natural environment and its phenomena. Hence, it is improbable that the term *othoth* ('signs') in Gen. 1.14 was a reference to such celestial omens.

That said, it is noteworthy that the term *othoth* ('signs') was used in connection with physical phenomena of the celestial bodies, as, in the ANE, all appearances, movements and positions of natural phenomena were regarded as deistic

<sup>172</sup> See A. Leo Oppenheim, *Ancient Mesopotamia: Portrait of a Dead Civilization* (Chicago: University of Chicago Press: 1964), p. 211, quoted in Annus, 'On the Beginnings and Continuities of Omen Sciences', pp. 3,4; Koch-Westenholz, *Mesopotamian Astrology*, pp. 14, 19; Uri Gabbay, 'Akkadian Commentaries from Ancient Mesopotamia and Their Relation to Early Hebrew Exegesis', *Dead Sea Discoveries* (The Rise of Commentary: Commentary Texts in Ancient Near Eastern, Greek, Roman and Jewish Cultures: Vol. 19, Issue 3, 2012; Brill: pp. 267-312), p. 273.

<sup>173</sup> E. Frahm, 'Reading the Tablet, the Exta, and the Body: The Hermeneutics of Cuneiform Signs in Babylonian and Assyrian Text Commentaries and Divinatory Texts', *Divination and the Interpretation of Signs*, ed. by A. Annus (2010), pp. 93-141.

<sup>174</sup> Gabbay, 'Akkadian Commentaries', pp. 274-5.

<sup>175</sup> F. Rochberg, "'If P, Then Q": Form and Reasoning in Babylonian Divination', *Divination and the Interpretation of Signs*, pp. 19ff.

<sup>176</sup> Recorded in the Assyrian Eponym List, online at <http://www.livius.org/articles/concept/limmu/limmu-list-858-699-bce/> [accessed 14<sup>th</sup> Jan. 2019]. See Tzvi Pittinsky, comment on 'Solar Eclipses and Other Natural Phenomena in Tanach', in the Tanach Rav Blog, posted on 13<sup>th</sup> Aug. 2017, [tanachrav.blogspot.com/2017/08/solar-eclipses-and-other-natural.html](http://tanachrav.blogspot.com/2017/08/solar-eclipses-and-other-natural.html) [acc. 14<sup>th</sup> Jan. 2019].

signs, and, as observed above, were invariably described as *ittu*.<sup>177</sup> (This reflection may also apply also to all Deistic usage of the term *oth*, especially but not exclusively apropos natural phenomena; for example, the sign of the rainbow in Gen. 9.12, 13, the covenantal sign of circumcision in Gen. 17.11, and the sign of the Sabbath in Ex. 31.13, 17.) Although this paper argues that its interpretation appears to be astronomical, it may nonetheless unwittingly retain echoes of the Assyro-Babylonian conception of those natural phenomena. This brings to mind Wright's assertion, echoed by both Zatelli and Campion and others (cited above, in the previous chapter), that the Biblical text reinterpreted aspects of its astrolatrous milieu to conform with its monotheistic message.<sup>178</sup> Alternatively, it might be argued that the text specifically integrated such terminology to heighten the contrast between it and the creation myths of other cultures of the ANE.<sup>179</sup>

### HOSTS OF HEAVEN

In Deut. 4.19, the sun, moon, stars, all 'the host of heaven', were described as having been set aside for the [other] nations to worship.<sup>180</sup> Arguably, the Pentateuch was not disputing their being deities or powers, merely that they were apportioned to 'the [other] peoples' of the world. Similarly, in Deut. 17.3, the person found guilty of worshiping idolatry was described as turning to the astral bodies 'that I did not command'.<sup>181</sup> In the phrase 'that I did not command' was implicit a hierarchy of heavenly hosts that could possibly be recognised within the legal worship of G-d; if not specifically, then, at least, circuitously.

In both these instances, the sun and moon were grouped together with צבא השמים (*ts'voh hashomayim* 'the heavenly hosts'). In the vision of Michoyehu (I Kings 22.18 and II Chronicles, 18.18), that term was employed in reference to angelic beings. Yet, in Gen. (2.1), צבא (*ts'voh* 'hosts') was used in conjunction with the heavens and the earth, clearly referencing the physical entities of the stars and

<sup>177</sup> Koch-Westenholz, *Mesopotamian Astrology*, p. 21; F. Rochberg, 'Conceiving the History of Science', *The Frontiers of Ancient Science: Essays in Honor of Heinrich von Staden*, ed. by Brooke Holmes, Klaus-Dietrich Fischer (De Gruyter, Berlin, 2015), p. 520; Noegel, 'Sign, sign, everywhere a sign', p. 149.

<sup>178</sup> Campion, *History of Western Astrology*, Vol. 1, p. 109-114; Wright, *Early History of Heaven* (Oxford University Press: 2002), pp. ix-x, 3, 185; Zatelli, 'Astrology and the Worship of the Stars', pp. 87, 88, 97; Helyer, *Exploring Jewish Literature of the Second Temple Period*, p. 83.

<sup>179</sup> See Currid, *Against the gods*, pp. 45-46

<sup>180</sup> וַיִּפְּן תִּשְׁאָא עֵינָיו הַשְּׁמַיִמָה וַיֵּרְאֵיהֶם אֶת הַשֶּׁמֶשׁ וְאֶת הַיָּרֵחַ וְאֶת הַכּוֹכָבִים כֹּל צָבָא הַשְּׁמַיִם וַיִּנְדַּחַת וְהִשְׁתַּחֲוִיתָ לָהֶם וַעֲבַדְתָּם אֲשֶׁר חָלַק

<sup>181</sup> ד' א-לֹהֵיךָ אֲתָם לְכָל הָעַמִּים תַּחַת כָּל הַשָּׁמַיִם - and he went and worshiped other powers and bowed down to them, to the sun or to the moon or to any of the heavenly host, that I never commanded'



planets together with the hosts of beasts, insects, fish and birds on earth. Similarly, in its employment in Jer. 33.22, there was no hint to angelic beings.

It thus appeared that the Bible's authors perceived two types of heavenly hosts and possibly two types of heaven: angelic hosts of G-d in the supernal heavens and the starry host of the skies in the physical realm, both clearly referenced in Psalm 148.1-4.<sup>182</sup> Though, as shown in Deuteronomy, both have possible agency.

In Psalms 89, the boundary between the physical bodies of the heavens and the transcendent, spiritual hierarchy was apparently blurred. In verses 2-5, the psalmist alluded to the everlasting quality of the heavens, in reference to the promise made concerning the Davidic line, implying that the heavens have a spiritual agency: 'For I said, "Forever will it be established [with] kindness, [as] the heavens you establish your faithfulness with them"' (89.3).<sup>183</sup> Subsequently, in verses 6-9, he referenced G-d's entourage, divine entities that comprise an assembly of holy beings.<sup>184</sup> The juxtaposition of the angelic hosts with the afore-mentioned *shomayim* ('heavens'), underlined the deistic quality of the physical heavens.

Whilst verses 10-14 referenced the physical world, including the heavens, verses 15-19 referenced G-d's righteousness and might. In describing G-d's protection of King David and his line, in verses 20-38, there is another reference to the enduring quality of the heavens: "I will make his seed endure forever, his throne as the days of heaven" (89.30).<sup>185</sup> In verses 37 and 38 of that section, the transcendence and perfection alluded to concerning the heavens was seen to encompass the luminaries: "his throne is like the sun before Me. Like the moon, established forever, an enduring witness in the sky".<sup>186</sup>

The everlastingness of the heavens can also be noted in Deut. 11.21: 'In order that your days may increase [...] as the days of heaven upon the earth'.<sup>187</sup> However, though the psalmist saw the physical celestial bodies as enduring forever, even

<sup>182</sup> See Edward Walter Maunder, *The Astronomy of the Bible: An Elementary Commentary on the Astronomical References in the Holy Scripture*, (New York: Mitchell Kennerly (1908); reprinted 2018 by Read Book Ltd.), Chapter V.

<sup>183</sup> (3) כִּי אֶמְרָתִי עוֹלָם חֶסֶד יִבְנֶה שָׁמַיִם תִּכְוֶן אֲמוֹנֶתָהּ בָּהֶם

<sup>184</sup> (6) וַיֹּדֶוּ שָׁמַיִם פִּלְאָה ד' אֶף אֲמוֹנֶתָהּ בִּקְהֵל קְדוֹשִׁים

(7) כִּי מִי בִשְׁחַק יִצְרָף לֵד' יִדְמָה לֵד' בִּבְנֵי אֱלֹהִים

(8) א-ל נִצְרָץ בְּסוֹד קְדוֹשִׁים רַבָּה וְנוֹרָא עַל כָּל סִבִּיבָיו

(9) ד' א-לֵהִי אֶבְאוּ-ת מִי כְמוֹד חֶסֶד י' וְאֲמוֹנֶתָהּ סִבִּיבוֹתֶיהָ

<sup>185</sup> (30) וְשִׁמְתִּי לְעֵד וְכִסְאוֹ כִּימִי שָׁמַיִם

<sup>186</sup> (37) וַיִּרְעוּ לְעוֹלָם יְהִיָּה וְכִסְאוֹ כְּשֶׁשֶׁשׁ נִגְדִי

(38) כְּגֶרֶם יִכּוֹן עוֹלָם וְעַד בִּשְׁחַק נֶאֱמָן סֵלָה

<sup>187</sup> לַמַּעַן יִרְבּוּ יְמֵיכֶם וַיְמֵי בְנֵיכֶם [...] כִּימֵי הַשָּׁמַיִם עַל הָאָרֶץ

epitomising perfection, there is no clear deification.

A further fusion of the two types of celestial hosts was seen in Job 38.7. Here the morning stars were described as singing, at the genesis of creation, juxtaposed with the roaring of the *bnei elohim*.<sup>188</sup> Whether *bnei elohim* is interpreted as divine angelic beings, or as sons of G-d, the interpretation of the morning stars as sentient beings with agency, possibly on a par with the supernal angelic beings, cannot be avoided.<sup>189</sup> This is particularly valid in view of the opening chapters of Job (Job 1.6 and 2.1), where the *bnei elohim* are clearly depicted as angels of G-d.

A similar amalgam of celestial elements was in Isaiah 14.13, where the prophet described the king of Babylon as saying, “I will ascend to the heavens, above the divine stars (lit. stars of *El*) will I raise up my throne”.<sup>190</sup> However, although Isaiah 14.12-15 has been generally explained as a satirical reference to a Canaanite or Ugaritic tradition, the term כוכבי אֵל (*koch'vei el*) could be a poetic description of the stars ('stars of G-d'), without the author implying any deistic allusion.<sup>191</sup>

The verse in Judges 5.20, 'From heaven they fought: the stars, from their courses, fought against Sisera', was an apparent overt astrological reference.<sup>192</sup> At the very least, it implied an astrologic worldview. However, the type of astrology suggested was questionable. The term 'from heaven', as opposed to 'in heaven', underscored a lowering of agency from the higher realm. Thus, the first phrase, 'from heaven they fought', implied a heavenly battle with a view to effect the lower realms. The second phrase, 'the stars, from their courses, fought against Sisera', implied the stars' active participation 'from their courses', an effect initiated from above, to influence the battle below, but without leaving their courses.

'The stars fought' implied agency. A verse (5.23) in the next stanza, quoting the angel of G-d cursing the residents of Meroz, presented the possibility that the stars were seen as angelic agents of the Deity, not as deities in their own right.<sup>193</sup> However, the verses may have presented a bipartite scenario: 'From heaven they fought' referred to a higher, angelic realm, echoed in verse 5.23, and the latter clause, 'the stars, from their courses, fought against Sisera', referred to a lower

<sup>188</sup> בָּרוּךְ יְחַד כּוֹכְבֵי בֶקֶר וְיָרִיעוּ כָּל בְּנֵי אֱלֹהִים

<sup>189</sup> See also, Wright, *Early History of Heaven*, p. 59.

<sup>190</sup> [...] הַשָּׁמַיִם אֶעֱלֶה מִמַּעַל לְכוֹכְבֵי אֵל- לְאֲרִים בִּסְרָא

<sup>191</sup> Bernard J. Bamberger, *Fallen Angels*, (The Jewish Publication Society: Philadelphia; 2006), pp. 9-10; R. Mark Shipp, *Of Dead Kings and Dirges: Myth and Meaning in Isaiah 14:4b-21* (Academia Biblica 11, Leiden: Brill, 2002), pp. 1-31.

<sup>192</sup> מִן שָׁמַיִם נִלְחָמוּ הַכּוֹכְבִּים מִמְּסֻלוֹתָם נִלְחָמוּ עִם סִסְרָא

<sup>193</sup> אֲרוּ מְרוֹז אָמַר מֶלֶאךָ ד' אֲרוּ אֲרוּר יִשְׁבִּיָּה כִּי לֹא בָאוּ לְעִנְתָּ ד' לְעִנְתָּ ד' בְּגִבּוֹרִים

corresponding realm. This is borne out by the two contrasting halves in the poetic prose repeating the theme of a fighting battle, the former by the transcendent realms of heaven and the latter in the lower realms of heaven, by the stars.

‘From their courses’ described the stars having fixed courses, as the term *מסילה* (*mesiloh* ‘course’) indicated a straight, pre-planned path.<sup>194</sup> Clearly, in this instance, those stars did not depart from those courses but fought with Sisera from their celestial abodes. This particular conclusion is in contrast with Cooley who understood that the stars departed from their normal celestial positions and paths to take part in the battle.<sup>195</sup>

Thus, presented here is the classic ancient Near East understanding of transcendent deities influencing the lower realms through the manifestation of their agencies in the celestial bodies (see fig. 1).<sup>196</sup> Here, however, the deities are presented as angels, a theme repeated throughout the Bible.<sup>197</sup>

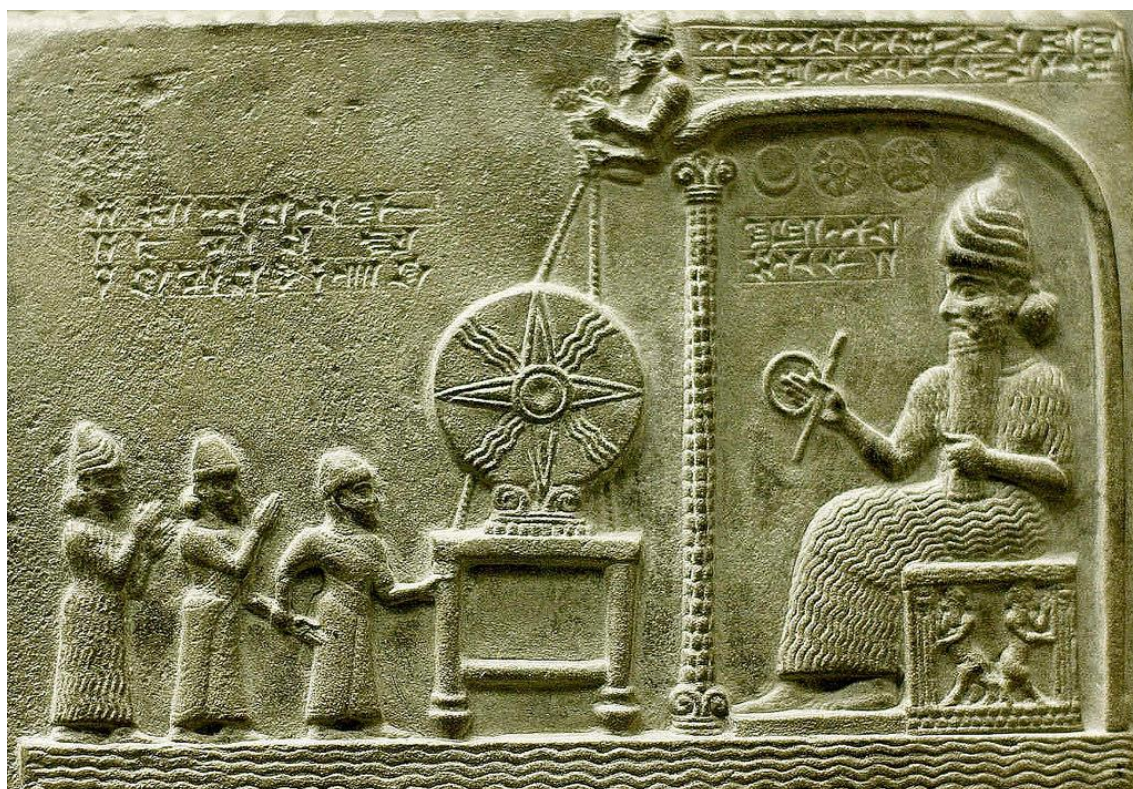


Figure 1: An image of the sun-god in his shrine, overseeing the solar-disc upon an altar or pedestal that is supported with ropes held by attendant deities. From the British Museum, item 91000

<sup>194</sup> Joseph C. Wertheimer, *Bi'ur Sheimoth Hanirdofim: נביאים וכתובים של תורה, ביאור שמות הנרדפים של תורה*, (כתבי-יד) מכון לעריכת והוצאת ספרים וכתבי-יד עתיקים (1984), p. 114.

<sup>195</sup> Cooley, *Poetic Astronomy*, p. 301.

<sup>196</sup> Manfred Hutter, ‘Astral Religion’, *Religion Past and Present*; Rochberg, “The Stars and Their Likenesses”, pp. 65, 79, 83, 89, 90; E. Frahm, ‘Reading the Tablet, the Exta, and the Body’, pp. 93-141.

<sup>197</sup> See, e.g., Lowell K. Handy, ‘Dissenting deities or obedient angels: divine hierarchies in Ugarit and the Bible’, *Biblical Research* (vol. 35: 1990; pp. 18-35), pp. 26-30; also, Sang Youl Cho, *Lesser Deities in the Ugaritic Texts and the Hebrew Bible: A Comparative Study of Their Nature and Roles*, (Gorgias Press, 200); Mark S. Smith, *The Origins of Biblical Monotheism: Israel's Polytheistic Background and the Ugaritic Texts*, (Oxford University Press, USA, 2003); Lowell K. Handy, *Among the Host of Heaven: The Syro-Palestinian Pantheon as Bureaucracy* (Eisenbrauns, 1994).



In conclusion, agency was implicit in some of the Tanach's references of the heavens and the celestial bodies therein appeared, though there was no clear suggestion of their being deities.

### ASTRAL CULT-WORSHIP

Astral cult worship was evident in many places throughout the Tanach. In II Kings, 21.3-5, Menasheh, King of Israel, was described as worshipping 'all the hosts of heaven'.<sup>198</sup> Solar cult-worship was mentioned in Ez. 8.16 as being practiced in secret, and the practise is clearly denounced. Its widespread practice was evinced in Job 31.26-28, as Job spoke of being 'secretly enticed' to thoughts and actions of adulation of the luminaries, describing those as iniquitous before G-d.<sup>199</sup> Evidence specifically of star worship amongst the Jewish People can be seen in Jer. 7.18, where the women were described as baking star-shaped cakes for the deity מלכת השמים (*m'lecheth hashomayim* 'queen of heaven').<sup>200</sup> Further references to this deity were found in Jer. 44.17-25, where the people related their offering incense to the 'queen of heaven'.<sup>201</sup>

Paul Haupt (1858-1926) and later scholars identified a connection between *sikuth* and *kiyun* of Amos 5.26 and their apparently similar Akkadian terms, <sup>d</sup>SAG.KUD (read as *Sakkud*) and *Kayyamanu*, the Akkadian term for Saturn.<sup>202</sup> By apparently rendering both *sikuth* and *kiyun* as references to Saturn, they claimed this source as evidence of Saturn worship.<sup>203</sup> However, as Cooley noted, this connection has been effectively disproven by Rykle Borger, who demonstrated that the previous reading of the Akkadian incantation series that enabled the connection was in error.<sup>204</sup>

The textual juxtaposition of *sikuth* to *malkechem* ('*sikuth* of your king') and *kiyun* to *tsalmeichem* ('*kiyun* of your images'), reciprocated in the latter half of

<sup>198</sup> לְכָל-צִבְיָא הַשָּׁמַיִם

<sup>199</sup> (26) אִם אֶרְאֶה אֹר כִּי יִהְיֶה וְיָרֵם יָקָר הַלֵּךְ

(27) וַיִּפְתֶּי בַסֶּתֶר לְבִי וַתִּשְׁקֵנִי לִפִּי

(28) גַּם הוּא עֹן פְּלִילִי כִי כַחֲשֵׁיתִי לִי- אֵל מִמֶּעַל

<sup>200</sup> וַהֲנִשִּׁים לְשׁוֹת בָּצֵק לַעֲשׂוֹת כְּנָנִים לְמַלְכֵת הַשָּׁמַיִם. See Paul Haupt, 'Some Assyrian Etymologies', *The American Journal of Semitic Languages and Literatures*, (Vol. 26, No. 1: Univ. of Chicago:1909; pp. 1-26), p. 15.

<sup>201</sup> לְקַטֵּר לְמַלְכֵת הַשָּׁמַיִם

<sup>202</sup> Paul Haupt, 'Über den Halbvocal u im Assyrischen', *Zeitschrift für Assyriologie und Vorderasiatische Archäologie*, ed. by Walther Sallaberger (vol. 2, 1887), p. 266; also, Haupt, 'Some Assyrian Etymologies', p. 17, 18; see also, Stanley Gervitz, 'A New Look at an Old Crux: Amos 5:26', *Journal of Biblical Literature* (University of Chicago: Vol. 87, No. 3: 1968; pp. 267-276), p. 272.

<sup>203</sup> See also Jeffers, 'Magic and Divination in Ancient Israel', p. 638.

<sup>204</sup> Cooley, Poetic Astronomy, p. 238-239; Rykle Borger, 'Amos 5,26, Apostelgeschichte 7,43 und Surpu II, 180', *Zeitschrift für die Alttestamentliche Wissenschaft*, (vol. 100, Issue 1, pp. 70-81 :1988), p. 75

the verse by ‘the star of your gods that you have made’, implies that *sikuth* and *kiyun* are external fashioned apparatus appertaining to astral cult worship. Possibly *sikuth* (סִכּוּת) is related to *sukkath* (סֹכֶת ‘tabernacle of’) and *kiyun* (כִּיּוּן) to *kano* (כְּנוֹ ‘its base’), as satirical references to their service in the wilderness, referenced in the previous verse. Thus, the verse does not necessarily provide insight into a particular type of astral worship referenced by the Bible.

In conclusion, it was clear from Tanach that, during the time of the First Temple (c. 10<sup>th</sup> cent. – 587 BCE), elements amongst the people practiced astrolatry. These practices were firmly denounced by the prophets.

### CELESTIAL DIVINATION

A possible reference to celestial divination can be seen in Jer. 8.2, where the people are described as having ‘loved [...] worshipped [...] followed, [...] sought out and [...] bowed down’ to the sun, moon and stars.<sup>205</sup> The expression דָּרְשׁוּם (*d’roshum* ‘sought them out’), as opposed to the other forms of worship that were specified, appeared to be indicative of divination, similar to its meaning in Gen. 25.22 – ‘and she went to seek of the L-rd’.<sup>206</sup>

Cooley argued that Israel did not possess an indigenous form of celestial divination and, contrary to this paper’s argument above, that there was no textual evidence of its practice, particularly as there was no explicit Pentateuchal admonition against celestial divination.<sup>207</sup> However, it was clear from the Bible that worship of deities included seeking signs, and that oracles and omen-seeking was a part of religious life.<sup>208</sup> The fact that there was no specific Pentateuchal admonition may be indicative of its having been completely bound up with astral cult-worship. Moreover, the admonitions in Lev. 19.26 and Deut. 18.10 arguably encompassed all types of divination.

Though the tB and the Vulgate interpreted מעוֹנֵן (*me’onain*) or לֹא תַעֲוִנוּ (*lo the’onainu*), in the admonitions in Deut. 18.10 and Lev. 19.26, as the divinatory practice of ‘observing the times’, that appeared to be an anachronism as the practice of calculating the days and hours according to a predetermined

<sup>205</sup> אֲשֶׁר אֱהָבוּם וְאֲשֶׁר יִכְבְּדוּם וְאֲשֶׁר הֵלְכוּ אַחֲרֵיהֶם וְאֲשֶׁר דָּרְשׁוּם וְאֲשֶׁר הִשְׁתַּחֲוּוּ לָהֶם

<sup>206</sup> וְתֵלֵךְ לִדְרוֹשׁ אֶת ד'.

<sup>207</sup> Cooley, *Poetic Astronomy*, pp. 22-260.

<sup>208</sup> See, for example, Deut. 13.2,3.

astrological order was a Hellenistic innovation.<sup>209</sup>

Familiarity with the various types of celestial divination employed by the Babylonian court was expressed in Isaiah 47.13:

You have become weary through all your advisors. Let them stand up and help you, the (*hourei shomayim*) celestial diviners, who gaze at the stars, [those] who inform according to the new moons what will come upon you.<sup>210</sup>

E. Henderson (1784-1858) identified הוֹבְרֵי שָׁמַיִם (*hourei shomayim*) as deriving from the Arabic word هَبَرَ (*habara*), to mean ‘dividers of heaven’.<sup>211</sup> In contradistinction, the Targum (Aramaic translation c. 2<sup>nd</sup> cent. CE), Septuagint, KJV Bible, and Jewish medieval commentators, understood *hourei* as an agentive noun deriving from the root הָבַר (*HBR* ‘to clean’ or ‘clear’), rendering *hourei* as ‘those who see clearly’; hence, there were three descriptions of astrologers in the text.<sup>212</sup>

However, the Masoretic tradition has preserved an alternate reading (a *qere/kethiv*): *habaru* (הַבְּרִי).<sup>213</sup> Clearly, the author’s intention was to ‘*bārû*’, an Akkadian term for ‘diviners’.<sup>214</sup> Instead of the letter ה as part of the participle (*hourei* – ‘those who see clearly’), the ה is the definite article of the noun *bārû*, who are subsequently described as *chozim bakochovim*.

The term חֲזִיִּים בְּכֹכָבִים (*chozim bakochovim* ‘stargazers’) implied a prolonged gazing at the stars, as in the phrase ‘I will gaze (אֶחְזֶה *echezeh*) upon Your Presence’ (Psalms 17.15), related to the verb ‘to hold’ as in ‘I will hold (אֶחַז *ochazoh*) its branches’ (Song 7.9).<sup>215</sup> The next phrase, *modi'im lechodoshim*, implied

<sup>209</sup> Latin Vulgate, available online at <https://www.biblestudytools.com/vula/leviticus/19-26.html> [acc. 30<sup>th</sup> Jan. 2019]: ‘non comedetis cum sanguine non augurabimini nec observabitis somnia’; Sanhedrin 35b; Robert Hand, ‘Introduction’ in *Vettius Valens Anthology II*, (Berkeley Springs, WV: The Golden Hind Press, 1994), pp. v-vii.

<sup>210</sup> נְלֹאִית בְּרַב עֲצָתֶיךָ יַעֲמִדוּ נָא וְיִוְשִׁיעֶךָ הִבְרִי שָׁמַיִם הַחֲזִיִּים בְּכֹכָבִים מִדִּיעֵם לְחֻדָּשִׁים מֵאֲשֶׁר יָבֹאוּ עָלֶיךָ

<sup>211</sup> E. Henderson, *The Book of the Prophet Isaiah, translated from the Original Hebrew; with a Commentary; To which is Prefixed, an Introductory Dissertation on the Life and Times of the Prophet*, pp. 551-352; see also, Dobin, *The Astrological Secrets*, p. 120.

<sup>212</sup> J. F. Stenning, ed. *The Targum of Isaiah*, (Oxford: Clarendon, 1949); regarding the date of Targum, see <http://www.oxfordbibliographies.com/view/document/obo-9780195393361/obo-9780195393361-0187.xml> [acc. 31<sup>st</sup> Jan. 2019]; cf. Samson H. Levey, ‘The Date of Targum Jonathan to the Prophets’, *Vetus Testamentum*, (Brill: Vol. 21, Fasc. 2 1971, pp. 186-196), pp. 194-5; See Rashi, Metsudath Dovid, Kimchi (Redaq) ad loc; Septuagint online at <https://en.katabiblon.com/us/index.php?text=LXX&book=Is&ch=47> [acc. 29<sup>th</sup> Jan, 2019]; KJV Bible online at <https://www.kingjamesbibleonline.org/Isaiah-Chapter-1/> [acc. 29<sup>th</sup> Jan, 2019]. See also, Isaiah 52.11; Jer. 51.11, for similar terms.

<sup>213</sup> Isaiah 47.13

<sup>214</sup> Reiner, *Astral Magic*, p. 63.

<sup>215</sup> Psalms 17.15: אֶחְזֶה בְּכֹכָבִים; Song of Songs 7.9: אֶחַז בְּסִנְיָיו.



divination through knowledge of the omina of the new moon. Thus, the former suggest an active and possibly prolonged gazing at the heavens, whilst the latter indicated a technical expertise in lunar omina.

Reiner has referred to copious evidence proving the presence and importance of diviners and astronomers at the Neo-Assyrian Empire's royal court who regularly conveyed to the king prognostications and reports such as the monthly sighting of the new moon.<sup>216</sup> Although castigating Babylon, the prophet demonstrated his detailed knowledge of the processes involved, the text clearly preserving intimate knowledge of both the technical terms and the on-goings of the diviners at the Babylonian court.

Further allusions to the Babylonian court diviners can be found in Daniel 2.27, 4.4 and 5.11 where mention is made of כַּשְׁדִּי (*kasdoy* lit. Chaldeans, viz. 'astrologers') and גְּזוֹרִין (*gezorin* 'diviners'). As Adolfo explained, the term 'Chaldean' became a generic reference for astrologers, regardless of their provenance.<sup>217</sup> Though a canonical book, its compilation (c. 5<sup>th</sup>-3<sup>rd</sup> cent. BCE) reflected late Babylonian culture as opposed to the Israelite culture indicated in the earlier books.<sup>218</sup>

To summarise, though an indigenous tradition of celestial divination cannot be derived from these sources, the infiltration of Babylonian celestial divination practices to the Land of Israel, appeared most likely.<sup>219</sup>

### ***Mazol* in Tanach**

Due to its widespread use in the Talmud as an astrological reference, it is important to clarify the Biblical meaning of the term *mazol* (pl. *mazoloth*). Appearing only once in Tanach, in II Kings 23.5, it was another example of a Biblical *hapax legomenon*:

‘He suppressed the idolatrous priests whom the Judaic kings had appointed and who had burnt incense [...], and those who burnt incense

<sup>216</sup> Reiner, *Astral Magic*, p. 63.

<sup>217</sup> Adolfo D. Roitman, 'This People are Descendants of Chaldeans' (Judith 5:6): Its Literary Form and Historical Setting', *Journal of Biblical Literature* 113, No. 2 (1994): pp. 255–56ff.33 Ibid., p. 256

<sup>218</sup> See, for example, *The Book of Daniel: Composition and Reception, Volume 2*, ed. by John Joseph Collins, Peter W. Flint and Cameron Van Epps (BRILL, 2002), PP. 325-326.

<sup>219</sup> Cf. Cooley, *Poetic Astronomy*, pp. 257-258; Jeffers, 'Magic and Divination in Ancient Israel', p. 154.

to *Ba'al*, to the sun and to the moon and to the *mazoloth*, and to the entire host of heaven'.<sup>220</sup>

However, a similar term, *mazoroth*, was in Job, 38.32:

31. Can you tie the chains of the Pleiades [*Kim'oh*] or loosen the straps of Orion [*K'sil*]? 32. Can you take out *mazoroth* each in its time, or lead the Bear [*Ayish*] with her children?<sup>221</sup>

Whilst the Septuagint equated both *mazoloth* and *mazoroth*, rendering both μαζουρωθ, a Greek transliteration of *mazoroth*, the Vulgate differentiated between the two, interpreting the former as *duodecim signis*, lit. 'twelve signs', a reference to the twelve signs of the zodiac, and the latter as *luciferum*, lit. 'the light-bringing star', or the morning star.<sup>222</sup>

Though not entirely conclusive, due to its juxtaposition to clearly referenced groups of stars, the latter term, *mazoroth*, seemed to refer to a specific constellation and is thus an astronomical rather than an astrological term.<sup>223</sup> As stated in the introduction, this paper does not intend to focus on the astronomical science evidenced in the Biblical texts. However, the former term, *mazoloth*, has an astrological connotation, as it appeared in reference to astral worship.

Situated between the sun and moon and 'the entire host of heaven' (לִּלְכָל צָבָא הַשָּׁמַיִם), the context suggested *mazoloth* to be a generic term, either for planets, that is, their deistic hypostases, or for particular groups of stars (constellations). The Vulgate's interpretation, *duodecim signis*, must be designated anachronistic, since the zodiac, in its meaning of a band of twelve constellations, appears to be a Hellenistic innovation.<sup>224</sup> However, the astronomical division of the sky into twelve sections found its first known expression in Mesopotamia, as evidenced by

<sup>220</sup> והשביית את הכוכבים אשר נתנו מלכי יהודה ונקשר [...] ואת המקשרים לבעל לשמש ולירח ולמזלות וכלל צבא השמים

<sup>221</sup> [32] הַתַּצִּיא מִזְרוֹת בְּעֵתוֹ וְעִישׁ עַל־בִּגְדֶיהָ תִּנָּחֶם [31] הַתְּקַשֵּׁר מַעֲדָנוֹת כִּימָה אוֹ מִשְׁכוֹת כְּסִיל תִּפְתָּח.

Translation adapted from [www.chabad.org](http://www.chabad.org), and [www.sefaria.org](http://www.sefaria.org), acc. 27<sup>th</sup> Jan. 2019.

<sup>222</sup> The Septuagint [LXX], available online at <https://www.blueletterbible.org/lxx> acc. 27<sup>th</sup> Jan. 2019; Vulgate, available online at <https://www.biblestudytools.com/vul>, acc. 27<sup>th</sup> Jan. 2019.

<sup>223</sup> Zatelli, 'Astrology and the Worship of the Stars', p. 95; Cooley, *Poetic Astronomy*, pp. 234-235.

<sup>224</sup> Rochberg-Halton, 'New Evidence for the History of Astrology', *Journal of Near Eastern Studies*, (University of Chicago Press) Vol. 43, No. 2 (1984), pp. 121-3; Nicholas Campion, 'More on the Transmission of the Babylonian Zodiac to Greece: The Case of the Nativity Omens and their Modern Legacy', *ARAM Journal* (Aram Periodical, Vol 24: Neo-Aramaic Dialects & Astrology in the Ancient Near East: Peeters, 2014, pp. 193-201), p. 196.

a tablet dated to 475 BCE.<sup>225</sup> Hence, the term *mazoloth* might have alluded to the twelve stations (rather than the twelve constellation signs) of the sun, the moon, or indeed the planets, in their transit through the sky.<sup>226</sup> Indeed, Paul Mankowski identified *mazol* as a loanword from the Akkadian term *manzaltu* or *mazoltu* meaning the location of a celestial body.<sup>227</sup>

To argue, though, that II Kings 23.5 referenced the worship of astral stations is hardly tenable. The ANE's astrolatry was directed to the personification of the deities through the celestial bodies, not their positions.<sup>228</sup> Cooley argued that in its Akkadian usage, *manzaltu* never referred to the constellations per se, thus it would not be feasible to suggest that the author was referencing the seventeen constellations of the ecliptical path of the moon, mentioned in the MUL.APIN, used before the development of the twelve zodiacal constellations.<sup>229</sup> However, according to Hermann Spieckermann's assertion that stars were seen to be the locations, [*sic*] '*manzaltu*', of the celestial deities, it is feasible that the term *mazoloth* was referencing the planets or stars in their role as the locations of the hypostases of the astral deities.<sup>230</sup>

Further insight into the term *mazoloth* may be gained by attending to the verse's cantillation notes, which reflect the Masoretic tradition of Late Antiquity.<sup>231</sup> Though not conclusive, as the cantillation marks are at times punctuated in order to accentuate points of rabbinical exegesis, in this instance, the notes merely underscore that which is already inherent in a close reading of the text.<sup>232</sup> According to Masoretic tradition, the notes imply that the phrase 'the sun and the moon and the *mazoloth*' is a subclause relating to the previous clause, 'the *Ba'al*'. Without embarking on an in-depth investigation into the worship of

<sup>225</sup> Campion, 'More on the Transmission of the Babylonian Zodiac to Greece', p. 196; Bartel van der Waerden, 'History of the Zodiac', *Bulletin für Orientforschung*, (1952: Vol. 16, Issue 3, pp. 216-30). See also: Rochberg, *Babylonian Horoscopes*, (Philadelphia: American Philosophical Society, 1998), pp. 51-6; Rochberg-Halton, 'New Evidence for the History of Astrology', pp. 121-3.

<sup>226</sup> Cf. Cooley, *Poetic Astronomy*, p. 232; Zatelli, 'Astrology and the Worship of the Stars', p. 95.

<sup>227</sup> Paul V. Mankowski, *Akkadian loanwords in Biblical Hebrew*, (Harvard Semitic Studies, vol. 47. Winona Lake, Indiana: Eisenbrauns, 2000), pp. 86-7.

<sup>228</sup> A similar observation was made by Cooley, *Poetic Astronomy*, p. 274. See also, Rochberg, *Babylonian Astral Science in the Hellenistic World: Reception and Transmission* (Center for Advanced Studies: Berkeley Ludwig-Maximilians-Universität München; Issue 4, 2010), pp. 9-10.

<sup>229</sup> Hermann Hunger, David Pingree, *MUL.APIN: An Astronomical Compendium in Cuneiform* (F. Berger, 1989), pp. 11-12, 31-39, 139-152; Rochberg-Halton, 'New Evidence', p. 122.

<sup>230</sup> H. Spieckermann, *Juda unter Assur in der Sargonidenzeit*, (Vandenhoeck & Ruprecht: 1982), p. 259.

<sup>231</sup> See Aron Dotan, 'The Relative Chronology of Hebrew Vocalization and Accentuation', *Proceedings of the American Academy for Jewish Research*, Vol. 48 (1981), pp. 87-99, pp. 97-98.

<sup>232</sup> See the introductory discussion in, Simcha Kogot, *Correlations Between Biblical Accentuation and Traditional Jewish Exegesis: Linguistic and Contextual Studies*, (Hebrew University Magnes Press, 2010).

the *Ba'al* deity as expressed in the Bible, the verse thus implied that the *Ba'al* was not only worshipped through the sun, but also through the moon, and possibly the sun's [or moon's] various positions in the sky.

The view that *Ba'al* worship involved more than one planet or star, and was viewed as distributing its agency into diverse celestial bodies, is borne out by some thirteen passages in the Bible where *Ba'al* is referred to in the plural (*Ba'alim*).<sup>233</sup> This understanding of *Ba'al* worship was also mentioned by the medieval scholar, R. Menachem Tsiyoni (1340-1410), who argued that though mainly a solar cult, *Ba'al* was worshiped through other celestial bodies as well.<sup>234</sup>

Moreover, Lisbrack Bernsen and Herman Hunger concluded that the Babylonian astrologers identified the directions to sunrise of certain auspicious days with special positions in the zodiac.<sup>235</sup> If that is seen to be extended to positions of the moon, the term *mazoloth* as positions, apropos the sun and moon (and *Ba'al* worship), takes on even greater significance.

In summation, the term *mazoloth* appeared to refer to the locations and manifestations of celestial deities, possibly as parts of a composite deity called *Ba'al*.

## Rudimentary Astrology

### RULERS OF THE COSMOS

According to Stuckrad, another instance of astrological significance is in Gen. 1.16 and 18, where the luminaries were described as governing the day and night:

16. G-d made the two great luminaries: the great luminary for the governing of the day and the smaller luminary for the governing of the night, and the stars.

18. And to govern the day and the night ...<sup>236</sup>

Similar phraseology was observed in Psalms 136.8,9. In describing the lumi-

<sup>233</sup> Judges 2.11, 3.7, 8.33, 10.6, 10.10; I Samuel 7.4, 12.10; I Kings 18.18; Jer. 2.23, 9.13; Hosea 2.15, 2.19; II Chronicles 34.4.

<sup>234</sup> Menachem Tsiyoni, *Tsiyoni*, (Lemberg, 1882) p. 49b.

<sup>235</sup> Lisbrack Bernsen and Herman Hunger, The Babylonian Zodiac: Speculations on its invention and significance, *Centaurus* (Munksgaard: 1999; pp. 280-292), pp. 289-290.

<sup>236</sup> .16 וַיַּעַשׂ אֱלֹהִים אֶת שְׁנֵי הַמְּאֹרֹת הַגְּדֹלִים אֶת הַמְּאֹרֶת הַגָּדֹל לְמַמְשֶׁלֶת הַיּוֹם וְאֶת הַמְּאֹרֶת הַקָּטָן לְמַמְשֶׁלֶת הַלַּיְלָה וְאֶת הַכּוֹכָבִים. .18 וְלִמְשָׁל בַּיּוֹם וּבַלַּיְלָה [...]. Stuckrad, *Frömmigkeit und Wissenschaft*, pp. 89, 90.

naries as governing, Stuckrad saw evidence of personification of the luminaries, comparable to the personifications of the stars and planets in the Mesopotamian idea of divinity, where the celestial bodies were seen as representatives of the deities.<sup>237</sup> Hence, he explained, the verse advisedly used the term מַשֵּׁל (*MSHL*, ‘govern’), as opposed to the verb *MLCH* (‘rule’, from the noun *melech* ‘king’), since the stars were seen as subsidiary to the deities, not the deities themselves.<sup>238</sup>

However, both Erica Reiner and Rochberg have clearly shown that for the Mesopotamians, the stars and planets were not merely representations of the deities but, in some instances, actual deities.<sup>239</sup> Not only does this philosophy run contrary to the import of these verses (as demonstrated earlier in this section), it severely undermines Stuckrad’s reasoning that these verses indicated an outlook that was analogous to the Mesopotamian worldview.

Dobin, too, argued that the word *MSHL* is indicative of ‘a conscious and intelligent’ astrological rulership.<sup>240</sup> However, his argument was chronologically inconsistent. Astrological rulership of houses was a later development, of Hellenistic provenance.<sup>241</sup> Rochberg wrote, ‘the direct [...] influence of the motions of the celestial bodies upon the earth is [...] a Greek, or Hellenistic, concept’, with ‘no parallel in Babylonian omen texts’.<sup>242</sup> Since even the most radical of Bible critics concur that the main body of the book of Genesis was composed at least prior to the fourth century BCE, Dobin’s assertion was clearly anachronistic.<sup>243</sup> As Cooley advised, ‘especially when taking into account the necessity for the zodiac tradition to leap over the hurdles of esotericism, as well as linguistic, cultural and geographical barriers’, the origin of the zodiac, even in Late Babylonian Mesopotamia, would have been too late to have exerted any influence of the Bible.<sup>244</sup>

Furthermore, both Dobin and Stuckrad overlooked the grammatical composition of the particular clauses in question. First, if verse 1.16 was referring to deistic

<sup>237</sup> Stuckrad, *Frömmigkeit und Wissenschaft*, pp. 89, 90.

<sup>238</sup> *Ibid.*, p. 90.

<sup>239</sup> Erica Reiner, *Astral Magic in Babylonia*, Transactions of the American Philosophical Society, Vol. 85, Part 4, (Philadelphia: American Philosophical Society, 1995), p. 73; Rochberg, “‘The Stars and Their Likenesses’”, pp. 46-48, 65-75; Rochberg, *Babylonian Astral Science*, pp. 8-9.

<sup>240</sup> Dobin, *Astrological Secrets of the Hebrew Sages*, pp. 87-90.

<sup>241</sup> Rochberg-Halton, ‘New Evidence for the History of Astrology’, p. 117.

<sup>242</sup> Rochberg-Halton, ‘Elements of the Babylonian Contribution to Hellenistic Astrology’, p. 52.

<sup>243</sup> See Ephraim Avigdor Speiser, ‘Introduction’, *Anchor Bible edition of Genesis* (Doubleday, 1964); Dr. Malka Z. Simkovich, e-mail message to author, 24th Jan. 2019.

<sup>244</sup> Cooley, *Poetic Astronomy*, p. 254, n. 91.

or astrological influences, it should, arguably, have placed the stars together with the moon as governors of the night, instead of them being introduced, as it were, parenthetically, at the end of the verse, referring back to the clause at the start of the verse, 'G-d made'.

Second, the clause לְמַשְׁלֵת הַיּוֹם ('for [the] governing of the day' – Gen. 1.16) is a genitive phrase: לְמַשְׁלֵת (lememsheleth 'for [the] governing of') is a construct state of the noun מְשֻׁלָּה (memsholoh 'government'), adjoined to the absolute noun הַיּוֹם (hayom 'the day').<sup>245</sup> In other words, 'for [the] governing of the day' is referring to the 'government' of daytime, in as much as light 'governs' the day (in concurrence with the Genesis narrative of 1.3-5 that light had already been created on the first day and called 'day'), but not in a deistic or astrological sense, which might have been implied by the phrase לְמַשֵּׁל הַיּוֹם ('to govern the day'). This grammatical analysis addresses the clause concerning the sun and daytime but is equally pertinent to the parallel phrase regarding the moon and night.

Verse 18, וְלְמַשֵּׁל בַּיּוֹם וּבַלַּיְלָה, 'to govern the day and the night', referred to both the sun and moon (as evinced from verse, 1.17, 'and He placed them in the spread of the heavens') and alluded to the astronomical qualities described in Job 38.33, 'Do you know the laws of heaven, or can you impose its authority upon the earth?'.<sup>246</sup> As was evident in Job 38.31-35, the ordinances and dominion refer to the natural phenomena resulting from its physical presence and characteristics.

Notwithstanding that the pericope does not appear to suggest either a deistic or an astrological approach apropos the luminaries or stars, the use of the unusual term *MSHL* ('govern') may indicate cross-cultural influence from the surrounding milieu. Alternatively, as reasoned above, the text may have been using the terminology of its ANE culture and antecedents, to give its own monotheistic message that was antithetical to astrolatry, as a form of satirical rhetoric.

### JOSEPH'S DREAM

Various scholars have pointed to Joseph's dream of the sun, moon and eleven stars prostrating before him (Gen. 37.9) as an example of astrology in the Bible.<sup>247</sup>

<sup>245</sup> For grammatical rules, see Wilhelm Gesenius, '§89. The Genitive and the Construct State', *Gesenius' Hebrew Grammar* (OUP:1909) ed. by Emil Kautzsch, transl. by Arthur Ernest Cowley, available online at [https://en.wikisource.org/wiki/Gesenius%27\\_Hebrew\\_Grammar/89.\\_The\\_Genitive\\_and\\_the\\_Construct\\_State](https://en.wikisource.org/wiki/Gesenius%27_Hebrew_Grammar/89._The_Genitive_and_the_Construct_State) [acc. 17<sup>th</sup> Jan. 2019].

<sup>246</sup> Gen. 1.17: וַיִּתֵּן אֹתָם אֶל-לְהִים בְּרִקְיעַ הַשָּׁמַיִם לְהָאִיר עַל הָאָרֶץ; Job 38.33: הֲיִנְדַעַת חֻקֹּת שָׁמַיִם אִם תִּשִּׁים מְשֻׁטָּרוֹ בָּאָרֶץ.

<sup>247</sup> Dobin, *Astrological Secrets of the Hebrew Sages*, pp. 110-112; Stuckrad, *Frömmigkeit und Wissenschaft*, pp. 93-4; Campion, *History of Western Astrology*, Vol. 1, p. 116.



Both Dobin and Stuckrad saw the association of the sun and moon to the father and mother as a clear and direct astrological reference (Dobin called it an ‘astrological figure of speech’), whilst Campion described the dream as an example of ‘the representation of Hebrew society as a manifestation of the solar cycle’.<sup>248</sup>

However, with regards to Dobin and Stuckrad’s observation, the verses’ association of the sun with the father does not concur with ancient Canaanite culture, since to the ancient Canaanites, the sun deity was a goddess; its representative, the sun, a female entity.<sup>249</sup> Conversely, the moon god was a masculine deity.<sup>250</sup> Though the verses do not clearly expressly commit to that correlation – the moon might possibly represent the father – the order of the respective clauses of 37.9, 10, the precedence of sun before moon in 37.9, and the father before the mother in 37.10, indicates that interpretation to be the most probable.

Although the Mesopotamian pantheon reversed that order, the ancient Mesopotamians and Canaanites still both believed that the planets represented a revelation of the gods or their signs for potential knowledge of future events.<sup>251</sup> Therefore, it would have been inconceivable for the ANE mindset to view (or dream of) the icons of their gods’ hypostases as bowing down before the native, or to associate those hallowed representations with one’s siblings.

Furthermore, to the ancient Mesopotamian astrologer, there was no microcosm-macrocosm analogy, no Stoic concept of *heimarmene* or *sympatheia*.<sup>252</sup> Thus, whilst Hellenistic astrologers, such as Ptolemy and Valens (c. 2<sup>nd</sup> cent.), saw the sun as father and the moon as mother, and other planets as relating to other siblings, this view was not shared by their ANE predecessors.<sup>253</sup>

Moreover, Rochberg has noted that, as distinct from the later development of astrology and horoscopic astrology (from c. 500 BCE), which attached significance to the relationship between the luminaries and the planetary positions and their movements with respect with one another, Babylonian celestial divination

<sup>248</sup> Dobin, *Astrological Secrets of the Hebrew Sages*, p. 111; Stuckrad, *Frömmigkeit und Wissenschaft*, pp. 93-4. Campion, *History of Western Astrology, Vol. 1*, p. 116; see also, *Yalkut Shim'oni* (Leviticus 418).

<sup>249</sup> Nick Wyatt, *There's Such Divinity Doth Hedge a King*, (Ashgate: 2005), p. 104; Johnston, *Religions of the Ancient World*, p. 418.

<sup>250</sup> Wyatt, *Religious Texts from Ugarit*, p. 336.

<sup>251</sup> Rochberg, “The Stars and Their Likenesses”, pp. 75ff, 83, 89, 90; Rochberg, *Heavenly Writing*, p. 36.

<sup>252</sup> Rochberg-Halton, ‘New Evidence for the History of Astrology’, p. 117, n. 12; Nicholas Goodricke-Clarke, *Western Esotericism: A Brief History of Secret Knowledge* (Routledge, 2017), Ch. 2. For definitions of *heimarmene* and *sympatheia*, see above, p. 12.

<sup>253</sup> See Claudius Ptolemy, *Tetrabiblos*, translated by F. E. Robbins, (Loeb Classical Library 435. Cambridge, MA: Harvard University Press, 1940), Book III; Vettius Valens, *Anthologies*, Book I, p. 1.

separated the various celestial phenomena and their portents into separate units.<sup>254</sup> Clearly then, an augury deriving from the astrological relationship of the sun, moon and eleven stars to one another and to the native, and where the lunar omen is combined with the solar and stellar signs, would have been most unusual as a Babylonian apodosis to a celestial omen.

Besides the chronological inconsistency, it is also untenable to argue in support of Biblical evidence of cultural transmission of the stellar religions from its Canaanite or Ugaritic background history (as indeed Stuckrad does), whilst using the same text (the Pentateuch) to vindicate a proto Hellenistic astrology that has an entirely different viewpoint.<sup>255</sup>

Nevertheless, the fact that the text saw Joseph's parents as symbolised by the luminaries is noteworthy. There is no evidence that the Canaanites, Ugarites or Babylonians would have seen the same father/mother symbolism, as they associated the luminaries with father and mother god figures. Yet, far from regarding the astral bodies as deities, Jacob is recorded (in his interpretation of Joseph's dream) as seeing them as corresponding to human beings, demonstrating that the Biblical celestial observation and speculation was quite unlike that of the ancient Mesopotamians as chronicled in the *Enuma Anu Enlil*.

For Campion to assert that Joseph's dream of the stars was part of a broader Biblical theme that saw the Jewish people as a 'manifestation of the solar cycle', he had to assume that Joseph saw himself as the twelfth star.<sup>256</sup> However, this assumption was contrary to the text. In contradistinction to Gen. 37.7, where Joseph saw his eleven brothers' sheaves bowing down specifically to his sheaf, in Gen. 37.9 the stars were clearly described as bowing down to him and not to his star.<sup>257</sup> Though it may be argued that, much as the ancient Mesopotamians blurred the distinction between the gods and their icons, Joseph (according to the Bible) associated himself in his dream with his star, such a notion (a type of *unio mystica*) would have been inconsistent with the mindset and astral ideology of

<sup>254</sup> Ibid. p. 118.

<sup>255</sup> Stuckrad, *Frömmigkeit und Wissenschaft*, pp. 93-95.

<sup>256</sup> Campion, *History of Western Astrology*, Vol. 1, p. 116.

<sup>257</sup> 7. והנה אנחנו מאלמים אלמים בתוך השדה והנה קמה אלמתי וגם נצבה והנה תסבינה אלמתיכם ותשתחוין לאלמתי. 9. ויחלם עוד חלום אחר ויספר אתו לאחיו ויאמר הנה חלמתי חלום עוד והנה השמש והירח ואחד עשר כוכבים משתחוים לי. 7. 'Lo, we were binding sheaves in the midst of the field, and behold, my sheaf arose and also stood upright, and behold, your sheaves encircled [it] and they prostrated themselves to my sheaf.' 9. 'He dreamed again another dream and told it to his brothers. He said, "Behold, I dreamed another dream, and lo, the sun and the moon and eleven stars were prostrating themselves to me.'

the ANE, as demonstrated above.<sup>258</sup>

Furthermore, Cooley noted that, in the Biblical milieu, the seventeen stars in the path of the moon as detailed in the MUL.APIN would have been a much more significant and meaningful system than the number twelve in its association with the dividing of the sky.<sup>259</sup> In summation, therefore, it appeared highly questionable that there was any astrological significance in Joseph's dream.

## Summary

In conclusion, this analysis of possible astrological terms and nuances in the Bible has demonstrated that the Bible may conceivably (though not conclusively) have retained elements of the Canaanite or Assyro-Babylonian conception of natural phenomena, as noted by Zatelli.<sup>260</sup> Hence, in this respect, the analysis agreed with the findings of Stuckrad, Jeffers and Cryer, that the Tanach implied a 'magical' worldview.<sup>261</sup>

An influence of astrological belief was observed, in contrast to Leicht's opinion.<sup>262</sup> No clear textual evidence of belief in astral omens was found, in contrast with Champion's findings, though a certain ambivalence was detected in this regard, in line with Lobel's conclusions.<sup>263</sup>

Possible implications that celestial divination was practiced were deduced. This was not only in contrast to Cooley, who disavowed the connection between celestial divination and astral worship, but also in contrast to Jeffers, who saw celestial divination as a prime factor in the astrological belief evident in Tanach.<sup>264</sup> It was also found that the Tanach may reflect its milieu's terminology without necessarily retaining their philosophy.

It was suggested that elements of the surrounding milieu infiltrated and influenced Jewish culture and language. It was noted that astrolatry was present amongst the people as a foreign worship (not indigenous, in contrast to both

<sup>258</sup> Rochberg, "The Stars and Their Likenesses", pp. 65, 79, 83, 89, 90.

<sup>259</sup> Cooley, *Poetic Astronomy*, p. 254, n. 91.

<sup>260</sup> Zatelli, 'Astrology and the Worship of the Stars', pp. 87, 88, 97.

<sup>261</sup> Stuckrad, 'Jewish and Christian astrology', p. 33; Jeffers, *Magic and Divination in Ancient Palestine and Syria*, pp. 16, 251; Cryer, *Divination in Ancient Israel*, p. 324.

<sup>262</sup> Leicht, 'Jewish Astrology', p. 873.

<sup>263</sup> Champion, *History of Western Astrology*, p. 109-114; Lobel, 'Babylon to Jerusalem', pp. 93-94, 97-98.

<sup>264</sup> Cooley, 'Celestial Divination in Ugarit and Ancient Israel: Reassessment', pp. 26, 28; Jeffers, 'Magic and Divination in Ancient Israel', p. 154.

McKay and Cogan's assumptions), though castigated by the prophets.<sup>265</sup> Indeed, the term *mazol* appeared in Tanach to refer to the positions of manifested agencies of celestial deities, possibly parts of a composite deity called *Ba'al*.

There appeared evidence in the Biblical texts of the ANE's conception of transcendent deities manifesting their agencies in the celestial bodies, the deities construed as angels of G-d. Though the Bible rejected the notion of deification of the celestial bodies, it nonetheless regarded them as having agency, albeit subject to the ordinances of G-d.

Themes suggested by other scholars and authors to be indicative of astrological nuance were discussed. The overall conclusion was that the astrological meaning had been widely inferred and not implied by the texts. In that respect, this analysis concurred with Smith and Cooley's findings.<sup>266</sup>

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<sup>265</sup> J. W. McKay, *Religion in Judah*, pp. 27, 38, 51, 71; M. Cogan, *Imperialism and Religion*, pp. 86-88.

<sup>266</sup> Smith, 'When the Heavens Darkened', p. 266; Cooley, *Poetic Astronomy*, p. 254, n. 91.

## SECTION 2: ASTROLOGY IN THE TALMUD

### INTRODUCTION

The objective of this study will be to analyse various aspects of astrology that appeared in the Talmud. Thus, it will not focus on the *sugya* as a literary creation, though it may attend to its structure or the nature of its component parts when considering the intention of each of the *amoro'im* and the thrust of the *sugya* as a whole unit as understood by the author of that *sugya* (the anonymous redactor).

### ASTROLOGICAL CONCEPTS

#### What is *mazol*?

In the previous section it was determined that, in Tanach, the term *mazol* or *mazoloth* was connected with the location of deistic agency. This term (*mazol*) will now be further explored apropos its Talmudic usage.<sup>267</sup>

The word *mazol* has been employed in a variety of contexts throughout the Talmud. Not all those contexts were directly related to astrology. However, in the majority of cases, it seemed to be synonymous with the astrological influence on the person. Hence, its analysis is vital to an accurate appreciation of the Talmudic outlook on astrology.

The Talmud in Megilloh 3a explained that the reason Daniel's friends became startled (in Dan. 10.7), even though they did not see the angel, was because their *mazol* saw the angel.<sup>268</sup> Here *mazol* was understood as a spiritual entity connected to the person's psyche.

In Ta'anith 29b, Jewish persons were advised by the *amoro*, R. Popo', to have court-cases in the month of Adar, as opposed to the month of Ov; in the former, the *mazol* of the Jewish People was healthy; in the latter, it was seen to be harmed.<sup>269</sup> In this instance, the individual *mazol* of a person was understood to be affected by national events: the Purim miracle (in Adar) caused the *mazol* to be strong and the destruction of the Temples in Ov caused it weakness.

The idea that *mazol* may be affected by personal mishap was evinced by an account in Chagigoh 5a of a woman that was scalded, causing her *mazol* to

<sup>267</sup> This term was spelt *mazol* as evinced in its appearance in Tanach. The common spelling is *mazal*.

<sup>268</sup> וכי מאחר דלא חזו, מאי טעמא איבעיתו (נבהלו), אף על גב דאינהו לא חזו, מזליהו חזו, אמר רבינא שמע מינה האי מאן דמיבעית, אף על גב דאינהו לא חזו, מזליה חזו.

<sup>269</sup> אמר רב פפא: הלכך בר ישראל דאית ליה דינא בהדי נכרי לישתמיט מיניה באב דריע מזליה ולימצי נפשיה באדר דבריא מזליה.

become weaker, which enabled an agent of the angel of death to take her life, before her time.<sup>270</sup> An analogous theme appeared in Horayoth 12a.

The idea that *mazol* can be influenced was reiterated in Shabbath 53b. Here, the Talmud asked how it was possible for the same amulet to be efficacious for a person but not for an animal. The answer: a person has a *mazol* that helps him; an animal does not.<sup>271</sup> Here, *mazol* was seen as a spiritual entity, specific to people. It protected the person and could be influenced. The same concept appeared in Bovo Qamo 2b. The notion that one person's *mazol* might influence another's was stated in Bovo Metsioh 105a, where the conjoint *mazol* of two persons working together was described as potentially having increased efficaciousness.

In Mo'ed Qoton 28a, Rovo avowed that health, [having living] children and livelihood are not dependant upon merit but upon one's *mazol*.<sup>272</sup> This idea was repeated in Shabbath 156a. These *sugyas* indicated that a person can have either a good or a bad *mazol*. This was shown again in Yevomoth 64b, where a spouse's *mazol* was seen as the cause of the death of its spouses (if married three times and all the spouses died) and yet again in Bovo Bathro 98a where the *mazol* of a person was seen as responsible for turning wine to vinegar.

In Chagigoh 12b, *mazoloth* were described as being located in the firmament together with the sun, moon and stars. Here, *mazol* appeared to have an astronomical identity, possibly a constellation. Evidence of this was demonstrated in the *tannaic* (R. Yehoshua son of Levi and R. Yochanon) statements that a person capable of reckoning the cycles of the *mazoloth* is Biblically obligated to do so.<sup>273</sup>

That *mazol* is responsible for the character of a person was amply demonstrated in Shabbath 156a/b. The idea that *mazol* influenced thinking-processes was suggested in Bovo Bathro 12a, where it was argued that two persons of the same *mazol* could arrive at the same conclusion.

### **Ben Gilo**

A similar notion to *mazol* was expressed in three other places in the Talmud but using the term בן גילו (*ben gilo*).

<sup>270</sup> קדחה (נשרפה) ואיתרע מזלא ואיתיתתה

<sup>271</sup> ומי איכא (קמיע) מומחה לאדם ואינו מומחה לבהמה? אין, אדם דאית ליה מזלא, מסייע ליה בהמה דלית לה מזלא, לא מסייע לה.

<sup>272</sup> אמר רבא חיי בני ומזוני לא בזכותא תליא מילתא, אלא במזלא תליא מילתא...

<sup>273</sup> Shabbath 75a.



In Bovo Metsioh 27b, the term was used in relation to physical attributes. Here Rovo suggested the possibility that physical defects were likely to be repeated in two persons that were *ben gilo*. Megilloh 11a was of the opinion that two persons who were *ben gilo* would have the same leanings, though they did not have to act upon them. The term, *ben gilo* was employed again in Nedorim 33a, where the Talmud related that a person could relieve one sixtieth of the illness of a sick person, if he was *ben gilo*.

Both R. Yitschoq of Troyes and R. Nissim of Gerona (1040-1105) explained *ben gilo* to denote a person of the same *mazol*. According to Marcus Jastrow (1829-1903) *ben gilo* related to *galgal* ‘circle’, hence, ‘son of his circle’.<sup>274</sup> This would appear to imply a zodiacal connection, the ‘circle’ referring to the individual’s zodiacal position at the time of his birth.

## Summary

To summarise: according to the Talmud, *mazol* constituted an agency that protected the individual, though could be affected by external events. The *mazol* could also be either malefic or benefic, for the person or that person’s associates. It was responsible for the character and cognisance of a person. It appeared to be associated with an astronomical identity, possibly a constellation.

The notion of *mazol* appeared to to be synonymous with the concept of *daimon*, as expressed by Porphyry of Tyre (c. 234 – c. 305). In his essay ‘On What is in Our Power’, he stated that a person’s *daimon* serves ‘as a guard and watcher’ over the person.<sup>275</sup> Moreover, in accord with Porphyry, whilst the *daimon* might be responsible for impulses and character, the individual has the capacity for self-determination.<sup>276</sup> This concept resonated throughout the Talmud and will be seen in the analysis of Shabbath 156.

Moreover, it had clear parallels in non-rabbinic literature. Tamysn Barton asserted that the idea that each individual has their own star was widespread in the Roman Empire.<sup>277</sup> Indeed, Pliny the Elder (1<sup>st</sup> cent. CE) wrote of a person’s star rising at his birth and falling at his death, varying in brightness according to

<sup>274</sup> Rashi, s.v. *בבן גילו*; Ran, Nedorim 33a, s.v. *ובבן גילו*; M. Jastrow, ‘גיל II’, in *A Dictionary of the Targumim, Talmud Babli, Talmud Yerushalmi and Midrashic Literature* (1972), p. 238.

<sup>275</sup> Porphyry, ‘On What is in Our Power’, translated by James Wilberding (Bloomsbury, London: 2011), p. 143.

<sup>276</sup> Ibid. p. 143

<sup>277</sup> Tamysn Barton, *Ancient Astrology* (Routledge, 2002), p. 113.

a person's fate.<sup>278</sup> Just as the *mazol* is seen to be affected by extraneous circumstance, the *Sacred Book Addressed to Asclepius* had recipes to strengthen certain daemons responsible for disease.<sup>279</sup>

This concept of the *mazol* being affected or weakened may have its antecedents in Mesopotamian notions, wherein the gods responsible for fate and destiny are not immune from human conditions and necessities.<sup>280</sup> Yaakov Elman (1943-2018) observed, Rovo's statements concerning the *mazol* influencing life, livelihood and children concurred with the dualism within Zoroastrian thought.<sup>281</sup> Moreover, the benefic and malefic characteristics inherent in the *mazol* appeared congruent with the concepts of Manichaeism (a Gnostic sect), where light battles dark.<sup>282</sup>

It should be noted, that contrary to both Leicht and Lobel, who detected an ambivalence in the Talmudic astrological worldview, there were scarcely any dissenting voices against the notion of *mazol*.<sup>283</sup> Any disagreement was in degree but not in essence. Moreover, contrary to both Neusner and Stratton, as well as Lobel, this consensus had no connection with power.<sup>284</sup> The Talmudic cases displayed not knowledge of astrology but acquiescence to its viability.

This deduction concurred with Urbach's view that astrology was accepted throughout the Talmud.<sup>285</sup> The concept of *mazol* was seen as part of the cosmic order.

## Eclipses

In Sukkoh 29a, the Talmud recounted a *tannaic* discussion regarding eclipses. In the first discussion, the rabbis stated that a sun-eclipse is 'a bad omen for the entire world', comparing it to a king's servant who, on the king's instructions,

<sup>278</sup> Pliny the Elder, *Natural History*, 2.5.23, available online at <http://www.perseus.tufts.edu/hopper/text?doc=Plin.+Nat.+toc> acc. 31<sup>st</sup> Jan. 2019.

<sup>279</sup> Tamysn Barton, *Ancient Astrology*, pp. 190-191.

<sup>280</sup> Jack Newton Lawson, *The Concept of Fate in Ancient Mesopotamia of the First Millennium: Toward an Understanding of Šimtu*, (Otto Harrassowitz Verlag, 1994), p. 33.

<sup>281</sup> Y. Elman, "Righteousness as its own Reward: An Inquiry into the Theologies of the Stam", *Proceedings of the American Academy for Jewish Research* 57 (1991, pp. 35-67), p. 180.

<sup>282</sup> S. Hombrower and A. Spawforth, eds, *Oxford Classical Dictionary*, (Oxford/New York: Oxford University Press, 1996), s.v. Manichaeism, 917; Dorian Gieseler Greenbaum, *The Daimon in Hellenistic Astrology: Origins and Influence* (BRILL, 13 Nov 2015), p. 163.

<sup>283</sup> Leicht, 'Jewish Astrology', p. 873-4; Lobel, 'From Babylon to Jerusalem', p. 91.

<sup>284</sup> Lobel, 'Babylon to Jerusalem', p. 101; Neusner, 'Rabbi and Magus', p. 170; Kimberly Stratton, 'Imagining Power: Magic, Miracle, and the Social Context of Rabbinic Self-Representation', p. 366.

<sup>285</sup> Urbach, *The Sages*, p. 277.

removes the lantern for the guests.<sup>286</sup>

This was followed by an opposing opinion. Astrolaters, who use a solar calendar, should be wary of a solar eclipse; Jewish people, who use a lunar calendar, should be wary of a lunar eclipse.<sup>287</sup> The Talmud then posited,

If the eclipse was in the east, it is an omen for those in the east; in the west, for those in the west. If in the middle of the sky, it is an omen for the entire world.<sup>288</sup> If the sun's visage is like blood, a sword is coming [...]. [Black] like goat-hair sackcloth, hunger-arrows are coming [...]. Like this and that, sword and hunger-arrows are coming [...]. If eclipsed upon its entry, the calamity is tarrying. If upon its departure, the calamity is hastening.<sup>289</sup>

This description bore great affinity to the Akkadian lunar omens of the Mesopotamian tradition, where there was significant reference to the colour of the luminaries and the regent of the eclipse, such as 'a black eclipse which begins in the south'.<sup>290</sup>

The next Talmudic account regarding the reasons for the sun's eclipse bore further evidence of Mesopotamian attribution, with a rabbinic twist. Instead of the sun being associated with the king, it was associated with the president of court.<sup>291</sup>

As regards Jeremiah's advising that G-d says not to worry about 'the signs of heaven' (Jeremiah 10:2), the Talmud's opinion was that that was dependant on the Jewish people perform God's will.<sup>292</sup> This was reiterated in the sugya of Shabbos 156. Clearly as Neusner and Stuckrad both said, the astrological or magical worldview was part of the rabbinic world.<sup>293</sup>

<sup>286</sup> ת"ר בזמן שהחמה לוקה סימן רע לכל העולם כולו משל למה הדבר דומה למלך בשר ודם שעשה סעודה לעבדיו והניח פנס לפניהם כעס עליהם ואמר לעבדו טול פנס מפניהם והושיבם בחושך

<sup>287</sup> תנו רבנן בזמן שהחמה לוקה סימן רע לעובדי כוכבים לבנה לוקה סימן רע לשונאיהם של ישראל מפני שישראל מונין ללבנה ועובדי כוכבים לחמה

<sup>288</sup> לוקה במזרח סימן רע ליושבי מזרח במערב סימן רע ליושבי מערב באמצע הרקיע סימן רע לכל העולם כולו

<sup>289</sup> פניו דומין לדם חרב בא לעולם לשק חיצו רעב באין לעולם לזו ולזו חרב וחיצו רעב באין לעולם לקה בכניסתו פורענות שוהה לבא ביציאתו ממהרת לבא

<sup>290</sup> Riecke Borger, 'Keilschrifttexte verschiedenen Inhalts' in *Symbolae biblicae et Mesopotamicae Francisco Mario Theodoro de Liagre Bohll decicatae*, eds. Martinus Beek, Arie Kampman, Cornelis Nijland and Jaques Ryckmans (Leiden Brill, 1973), p. 40 – cited from Rochberg-Halton, *Aspects of Babylonian Divination the Lunar Eclipse: Tablets of Enūma Anu Enlil*, (Verlag F. Berger, 1988), p. 57, n. 118.

<sup>291</sup> Koch-Westenholz, *Mesopotamian Astrology*, p. 85.

<sup>292</sup> ובזמן שישראל עושין רצונו של מקום אין מתיראין מכל אלו

<sup>293</sup> Stuckrad, *Das Ringen*, p. 487; Jacob Neusner, 'How Much Iranian in Jewish Babylonia?', pp. 189-190.

## Astrometeorology

In Brochoth 58b, on account of a contradiction between a verse in Job 9.9 and a verse in Amos 5.8 with regard to constellations, Shmuel pronounced, 'Were it not for Orion's heat, the universe could not exist because of the cold of Pleiades; conversely, were it not for the cold of Pleiades, the universe could not exist because of the heat of Orion'.<sup>294</sup>

Further the Talmud related that in order to bring the flood, G-d took two stars from Pleiades. To end the flood, he replaced them with two stars from Ursa Major. As similar discussion is noted in Rosh HaShonnoh 11a.

In Eiruvim 56a, an astrometeorological statement was again presented by Shmuel, that depended on the Chaldean hour system.<sup>295</sup>

## Medical Astrology

In Shabbath 29b, Shmuel said that one should not let blood on Tuesday משום דקיימא ליה מאדים בזווי – generally translated as, 'because Mars prevails during the pairs'. This interpretation is dependent on Pesochim 110b that anything associated with pairs is subject to demonic influence. As, according to the Chaldean system, Mars prevails in the eighth hour, it was deemed dangerous to do bloodletting on that day.<sup>296</sup>

However, this explanation is difficult as a similar situation is repeated on Wednesday.<sup>297</sup> Moreover, merely because Mars is prevalent in an even hour, should not necessarily mean one must abstain from bloodletting the entire day. Furthermore, the term used in Pesochim is זיווגי *zivugei* meaning pairs. This is not the same as זווי *zovei* used here. Additionally, Shmuel was not quoted in Pesochim as agreeing with that opinion.

For these reasons, it appeared likely the interpretation of זווי is 'at the corner'. On Tuesday night, Mars rules the midheaven. Thus, Mars is seen to have an influence and authority over the entire day. For this reason, the Talmud then asks that on Friday, Mars is also at the midheaven – during the day, since Tuesday and Friday are the only days that have Mars at the midheaven according to the

<sup>294</sup> – אלמלא חמה של כסיל לא נתקיים עולם מפני צינה של כימה ואלמלא צינה של כימה לא נתקיים עולם מפני חמה של כסיל translation: [www.sefaria.org](http://www.sefaria.org) acc. 31<sup>st</sup> Jan. 2019.

<sup>295</sup> ואמר שמואל אין לך תקופת ניסן שנופלת בצדק שאינה משברת את האילנות ואין לך תקופת טבת שנופלת בצדק שאינה מייבשת את הזרעים והוא דאיתליד לבנה או בלבנה או בצדק

<sup>296</sup> Rashi, s.v. דקיימא ליה מאדים בזווי; Tosfos, s.v. דקיימא ליה מאדים בזווי.

<sup>297</sup> See Tos. *Ibid.*

Chaldean system.

The midheaven was a most important point in Babylonian astrology, as where the stars and planets culminate.<sup>298</sup> Clearly, the Talmud demonstrated here a strong affinity with the Babylonian tradition, the Chaldean hour system having evolved probably during the 5<sup>th</sup> century BCE.<sup>299</sup>

## Liturgy

Most of the Jewish prayer liturgy was authored by the *tanno'im* and *amoro'im* and contained various parts with astrological content or nuance. However, there is only one prayer specified in the Talmud.

Sanhedrin 42a presented the benediction said over the new moon. Regarding the stars and planets, R. Yehuda prescribed the following prayer:

[...] He set for them a law and a time, that they should not deviate from their task. They are joyous and eager to perform the will of their Owner. They are workers of truth whose work is truth [...]300

The Talmud clearly saw the stars as sentient beings with agency. This view was also implied in Brochoth 10a, where the stars and mazloth are described, with Psalm 103.20 as 'His angels, mighty creatures who do His bidding, ever obedient to His bidding'.<sup>301</sup>

<sup>298</sup> See pp.141-142 of MUL.APIN.

<sup>299</sup> Eviatar Zerubavel, *The Seven Day Circle: The History and Meaning of the Week*, (University of Chicago Press, 15 Mar 1989), P. 14.

<sup>300</sup> צבאם חוק וזמן נתן להם שלא ישנו את תפקידם ששים ושמחים לעשות רצון קונם פועלי אמת שפעולתן אמת

<sup>301</sup> מלאכיו גבורי כח עושי דברו לשמוע בקול דברו

### The *Locus Classicus*

The *locus classicus* of astrology in the Talmud is unanimously understood to be the *sugya* in Shabbath 156.<sup>302</sup> Space does not allow for a full analysis of this *sugya*. Shamma Freedman, Rubenstein and Kalmin have each separately analysed the *sugya* in depth, showing the strata of the original statements of the *tanno'im* and *amoro'im*, and those of the redactors.<sup>303</sup>

In the initial passage, it appeared that the redactors altered the main meaning of the periscope. By inserting reasons for R. Yehoshua ben Levi's statements to emphasise the creation narrative, they blunted the astrological thrust. As Jonathan Ben-Dov wrote, 'the earlier *amora'im* were more knowledgeable about the celestial sciences than their successors'.<sup>304</sup>

The various predictions given by R. Chanino were widely disseminated in Late Antiquity, in such works as the Mandaean *Syriac Book of Medicines* (see Appendix 1).<sup>305</sup> The *Xiuyao jing* also provided predictions about a person's personality based on the day of the week they were born; for example, those born on a Sunday will "have wisdom, act dutifully, be beautiful, have filial piety, and short-lived."<sup>306</sup> Perhaps then these works likewise borrowed from Iranian, as well as Hellenistic-Roman sources.

The very position the redactors were trying to impress, that is, that the Jewish people were not subject to *mazol*, was disproved by the very legends brought in the *sugya*. Clearly, in each of the stories, there was an astrological influence. It was only through a good deed that the person was saved, demonstrating, as Cassius said, 'the fault dear brutus is in ourselves, not in our stars'.<sup>307</sup>

This brings to mind the words of the work, *Centiloquium*, 'One skilful in this Science may evade many effects of the Stars, when he knows their Natures, and diligently prepares himself to receive their effects'.<sup>308</sup>

<sup>302</sup> Rubenstein, 'Talmudic Astrology: Bavli Šabbat 156a—b', p. 109.

<sup>303</sup> Shamma Yehudah Freedman, ענין נוסח חדש במסכת שבת בתלמוד הבבלי, *Shamma Yehudah Freedman, vol. 1* (2013), pp. 193-133; Kalmin, 'Problems in the use of the Babylonian Talmud for the History of Late Roman-Palestine', pp. 165-183; Rubenstein, 'Talmudic Astrology: Bavli Šabbat 156a—b', pp. 109-148.

<sup>304</sup> Jonathan Ben-Dov, 'Neo-Assyrian Astronomical Terminology in the Babylonian Talmud', *Journal of the American Oriental Society*, vol. 130, issue 2; (2010) pp. 267-270.

<sup>305</sup> *Book of the Zodiac* (tr. E. S. Drower, London, 1949).

<sup>306</sup> 足智, 端正, 美貌, 孝順, 短命. *Sukuyō-kyō shukusatsu*, (Typeset Edition of Sūtra of *Nakṣatras* and Planets). 2 vols. Ed. by Wakita Bunshō, Nagoya: 1897.) vol. 1, p. 30. (Translated by Mrs. Zang.)

<sup>307</sup> William Shakespeare *Julius Caesar* (I, ii, 140-141).

<sup>308</sup> (Attributed to Claudius Ptolemy,) 'Centiloquium', para 5, in John Partridge, *Mikropanastron*, (London, 1679).



## Summary

This analysis has demonstrated that astrology was widespread throughout the Talmud. The concept of *mazol* was embraced by the *amoro'im*. The idea of agency in stars, as it appeared to relate to the idea of *daimon*, the personal *mazol*, was unchallenged. Thus, the Talmud viewed astrology as apart from divination. In the Talmud there was now a scientific veracity in the celestial influences, a causality that had become as one with the religious cosmological worldview.

The *stamo'im*'s presence in the Talmud was observed as veering away from the astrological mindset, in order to present an outlook that was more in harmony with the Pentateuchal cosmology.

Blidstein has observed that much can be learnt about rabbinic culture by observing their interaction; clearly the rabbis of the Babylonian Talmud shared a Near-Eastern culture that incorporated many Babylonian components.<sup>309</sup> Jewish history is one of adaptation and synthesis. The stories and legal cases described in the Talmud demonstrated that astrology was very much a part of the rabbis' lives.

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<sup>309</sup> Louis Jacobs, 'Jewish Cosmology', *Ancient Cosmologies*, ed. by Carmen Blacker & Michael Loewe (London: George Allen & Unwin, 1975, pp. 66-86), p. 66; Gerald L. Blidstein, 'Rabbinic Judaism and General Culture: Normative Discussion and Attitudes', *Judaism's Encounter with Other Cultures*, p.4, p. 6, fn. 6.

## CHAPTER FOUR: CONCLUSION

From the analysis of the primary texts, it appeared that there was a stark difference between the astrology noticeable in the Bible to that in the Talmud. Astrology in the Bible was seen to be sparse; besides the references to astrolatry, allusions to astrology were few indeed. In contradistinction, astrology in the Talmud was widespread, well-integrated into all walks of life.

*Mazol* had developed, from an astral element to be spurned, as portrayed in the Bible, to a notion that appeared almost religious in its application to every sphere of life. Yet, it was the Bible's idea of agency in the stars that had progressed till it had reached the level of maturity evident in the Talmud. In the Bible, the gods of the nations became angels; stars were servants of G-d. In the Talmud, the agency of the constellations had advanced into a system of *daemons* that interacted with every individual. As Vico observed, people accept only the idea for which their previous development has prepared their minds.<sup>310</sup>

The mindset necessary for the acceptance of astrological notions was in evidence from Biblical times, portrayed in the Biblical texts – the astrological worldview described by Stuckrad.<sup>311</sup> That celestial phenomena were omens was hinted to in Jeremiah 10.2, 3. By providing set interpretations, as evinced by the sugya in Shabboth 156, the astrology was taken out of the realm of divination. As Stuckrad mentioned, as astrology separated from astrolatry, becoming entirely independent from divination, it was seen as a science, an integral part of the cosmos.<sup>312</sup>

Yet, it was evident, that the Talmud retained much of the old Mesopotamian tradition of celestial omens. This was in sharp contrast to the outlook of the prophets as portrayed in *Tanach*. The reason for this may be, that by the time the Talmud was assembled, the astral determinism experienced in Biblical times had progressed into a system of 'soft astrology' that was at ease with freewill.<sup>313</sup> It had now become acceptable to engage in the philosophy that celestial phenomena were signs from G-d. Moreover, that corpus of knowledge was seen as entirely separate from astrolatry. The gods were dead. The signs were signs of G-d.

<sup>310</sup> E. Elias Joseph Bickerman, *The Jews in the Greek Age* (Harvard University Press, Cambridge 1988), pp. 298-305, paraphrasing the Italian philosopher of history, Giovanni Battista Vico (1668–1744).

<sup>311</sup> Stuckrad, 'Jewish and Christian Astrology', pp. 1, 5, 6; 'Astral Magic in Ancient Jewish Discourse', pp. 248-51.

<sup>312</sup> Stuckrad, 'Astral Magic in Ancient Jewish Discourse', p. 248-51.

<sup>313</sup> Jim Tester, *A History of Western Astrology*, p. 2.

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## Appendix 1

Syriac Book of Medicines – p. 615: the day of the first day of the week:

The sun ruleth it and it is good for everything. He who is born thereon will become a prince.

The day of the 2<sup>nd</sup> day of the week

The Moon ruleth it .... It is good for ... sowing seed and sexual intercourse. He who is born thereon will suffer from many sicknesses.

The day of the 3<sup>rd</sup>

Aris ruleth it... A man must beware of quarrels therein. And he who is born thereon will become a physician.

The day of the 4<sup>th</sup>

Hermes ruleth it... He who is born thereon will become a man of knowledge [cf. night of 1<sup>st</sup> day – a wise man].

The day of the 5<sup>th</sup>

Zeus ruleth it. it is good for buying and selling .... [cf. night of 2<sup>nd</sup>.. he who is born thereon will become a man of peace.]

The day of the eve of the sabbath

Aphrodite ruleth it. It is good for buying and selling .. he who is born therein will become beautiful.

The day of the sabbath kronoth ruleth it. It is good for the man who is completing a piece of work, but not for one who is beginning a task. He who is born therein will live a long time.

p. 515 He who is born under the moon will be a son of guile and wickedness... his exterior will be better than his interior

he who is born under Aris.. will be a lover of war and blood

he who is born under Hermes will be dark [!!] ... but will have knowledge and understanding..

## Appendix 2: Research Proposal Form

**Faculty of Humanities****MA Dissertation Approval Form**

Student Name	David Rubin
Degree Scheme	MA CULTURAL ASTRONOMY AND ASTROLOGY
Module code	AHAN 7025
Start date	August 2016
Completion Date	January 2017

I have completed Part 1 of my degree.

Title of Dissertation: A Critical Analysis of Astrology in the Bible and Talmud, with reference to surrounding cultures
<p><b>Aims:</b> To analyse and compare Biblical and Rabbinic [i.e. Talmudic and Midrashic] astrology and consider how each era reacts to the culture [and philosophy] around them.</p>
<p><b>Academic Rational</b></p> <p>In the Hebrew Bible (viz. Pentateuch, Prophets and Writings), a cosmology is discernible that recognises the influence of the celestial bodies, though spurning astral religion. As Ida Zatelli writes, 'when the monotheistic principle in Israel appears no longer threatened, the "wisdom of the stars" regains its own cognitive value'.<sup>314</sup> However, whereas Zatelli [and others...] sees the Bible as condemning the astrologer, this is far from clear.<sup>315</sup> There is an ambivalence in the Bible, as Andrea Lobel has noted, that laid the grounds for later astrological discussion [c. 300-500 AD] within the Talmudic halachic framework.<sup>316</sup> This cosmology and ambivalence needs to be explored with reference to the surrounding culture.</p> <p>A similar comparative study is called for on the Mishnaic and Talmudic era, with particular reference to the evolution of thought and culture. Although Lobel has echoed both Jacob Neusner and Kimberly Stratton in ascribing the acceptance of Babylonian and Greek astrological elements to 'their association with <i>power</i>' (Lobel's italics), further research might suggest otherwise, as astrology was not only seen as a legitimate science by the Talmudic authors, and as such, a</p>

<sup>314</sup> Ida Zatelli, 'Astrology and the Worship of the Stars in the Bible' in [?], p. 87.

<sup>315</sup> Zatelli, 'Astrology and the Worship of the Stars in the Bible' in [?], p. 97.

<sup>316</sup> Andrea Lobel, 'From Babylon to Jerusalem: The Roots of Jewish Astrological Symbolism', in *Sky and Symbol* edited by Nicholas Campion and Liz Greene (Sophia Centre Press, 2011, pp. 85-101), p. 87.

necessary discipline for study but as a tool of the Creator precipitating its study as part of a religious duty to know the Creator.<sup>317</sup> Moreover, it can be shown that the structural parallels inherent in the Talmud's terminology imply an outlook coherent with Mosaic tradition. This paper will thus also debate whether, as Lobel has proposed, the Talmud treats *mazol* (literally, 'constellation') as tantamount to *avodah zarah* (lit. 'foreign worship', i.e. idolatry), or whether it is viewed as a natural and necessary phenomenon.<sup>318</sup>

To which module/s of the MA does your topic relate?

- AHAN7002 Introduction to Cultural Astronomy and Astrology.
- AHAN7023 Astral Religion
- AHAN7011 Cosmology, Magic and Divination
- AHAN7003 History of Astrology
- AHAN7006 Sacred Geography,
- Possibly: AHAN7035 Researching Contemporary Cosmologies, AHAN7022 Sky and Psyche

What papers have you completed in the MA which are relevant to this dissertation topic? List the module and the title of the paper/s.

- AHAN7002 Module title: Introduction to Cultural Astronomy and Astrology: Title of Paper: Is Astrology a Divinatory System?
- AHAN7023 Module title: Astral Religion: Title of Paper: In what sense are astrology's origins religious?
- AHAN7003 Module title: History of Astrology: Title of Paper: Did the Greeks invent astrology?
- AHAN7006 Module title: Sacred Geography: Title of Paper: Compare and critically contrast Mircea Eliade and Émile Durkheim's views of sacred space.

Methodology.

The methodology used will be predominantly a literary-based historical and cultural enquiry, including sociology and comparative religion.

Short Introductory Bibliography: 1. Secondary Sources (Scholarly Works)

Bar-Ilan, Meir, *Astronomy and Astrology Among the Jews in Antiquity*, Charlesworth, James H., *Jewish Astrology in the Talmud, Pseudepigrapha, the Dead Sea Scrolls, and Early Palestinian*

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<sup>317</sup> Lobel, 'From Babylon to Jerusalem', p. 101; Jacob Neusner, 'Rabbi and Magus in Third-Century Sasanian Babylonia', *History of Religions* 6, no. 2 (1966): p. 170; Kimberly Stratton, *Imagining Power: Magic, Miracle, and the Social Context of Rabbinic Self-Representation*.

<sup>318</sup> Lobel, 'From Babylon to Jerusalem', p. 91. This is also sometimes referred to as *avodat ha-kokhavim umazolot*—the worship of the stars and constellations.

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 Lobel, Andrea, *From Babylon to Jerusalem: The Roots of Jewish Astrological Symbolism*,  
 Reiner, Erica, *Astral Magic in Babylonia*,  
 Stratton, Kimberly, *Imagining Power: Magic, Miracle, and the Social Context of Rabbinic Self-Representation*,  
 Veltri, Giuseppe, *The Rabbis and Pliny the Elder: Jewish and Greco-Roman Attitudes toward Magic and Empirical Knowledge*.  
 von Stuckrad, Kocku, *Jewish and Christian Astrology in Late Antiquity: A New Approach*,  
 Zatelli, Ida, *Astrology and the Worship of the Stars in the Bible*,

Short Introductory Bibliography: 2 Primary Sources (Original Works/ Documents)

Babylonian Talmud (Vilna Talmud, 1835)  
 Cairo, Josef, Shulchan Aruch, (Venice, 1565)  
 Keter Crown Bible (Horev Publishing House)  
 Midrash Rabba (New York, 1960)

Time Schedule:

An outline of a likely timetable to completion.

Proposed Supervisor:

Dr. Nick Campion

Please indicate whether ethical approval for project is needed – ~~YES~~/**NO**  
 (This will only be relevant if you are undertaking qualitative research)

Please indicate whether sufficient resources are available for the project – **YES**/~~NO~~

The above topic, proposal, and supervisor have been agreed:

Signed : .....Programme Coordinator

Date:.....