



From Encoding to Decoding: The ATBH of R. Hiyya in Light of a Syriac, Greek and Coptic Cipher

Author(s): Yakir Paz and Tzahi Weiss

Source: *Journal of Near Eastern Studies*, Vol. 74, No. 1 (April 2015), pp. 45-65

Published by: [The University of Chicago Press](#)

Stable URL: <http://www.jstor.org/stable/10.1086/679740>

Accessed: 27/03/2015 14:59

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



The University of Chicago Press is collaborating with JSTOR to digitize, preserve and extend access to *Journal of Near Eastern Studies*.

<http://www.jstor.org>

From Encoding to Decoding: The ATBH of R. Hiyya in Light of a Syriac, Greek and Coptic Cipher

YAKIR PAZ, *The Hebrew University of Jerusalem* AND TZAHI WEISS, *The Open University of Israel**

Atbach: Non est abbreviatura, sed vox fictitia cabalística, qua ratio scribendi arcana comprehenditur.
(Johannes Buxtorf, *De abbreviaturis hebraicis*)¹

Introduction

With ciphers, encoding tends to precede decoding. Ciphers are usually first developed and employed in order to encode a few words, entire texts, or personal names. Decoding a text, on the other hand, requires the assumption that the original author had indeed known and employed the relevant cipher.

In the Babylonian Talmud, a substitute cipher, known as the ATBH (אֲטַבְחִי) of R. Hiyya, appears for the first time in rabbinic literature as a hermeneutical tool for decoding a cryptic biblical word. Unlike better-known and simpler alphabetic substitution ciphers used by the rabbis,² the ATBH is a rather sophisticated

cipher based, as we shall see, on the numeric value of the letters. The appearance of this enigmatic and previously unattested cipher, and its projection onto the biblical author, raises two questions. Where and when was this cipher developed? For what kind of encoding was it originally used?

Besides the rabbinic ATBH, similar ciphers are to be found in Syriac, Greek and Coptic texts. However, to date, no study has recognized all four versions. Thus in this article we wish to trace its genealogy, as well as the development of each of its versions. We wish to argue that the rabbis adapted the ATBH from a Syriac scribal cipher known as the “The Alphabet of Bardaisan.” We further argue that the Syriac cipher itself was adapted

* This article has benefited much from the insights and suggestions of our colleagues and teachers: Margalit Finkelberg, Yehuda Liebes, Hanan Mazeh and Ynon Wygoda. We are especially grateful to Gideon Bohak, who first drew our attention to the Greek and Coptic ciphers and generously supplied us with invaluable references.

¹ Johannes Buxtorf, *De abbreviaturis hebraicis* (Franequera, 1696), 28.

² Such as the ATBS (אֲטַבְשִׁי) and ALBM (אֲלֵבֵם). The projection of the ATBS by the rabbis on the biblical authors was actually justified, since this cipher is attested several times in Jeremiah: לֵב-קָמִי (51:1), שֶׁשֶׁךְ (51:41, 25:26), and זִמְכִי (25:25) are likely based on the ATBS and mean כְּשָׁדִים, and עֵלִים, respectively. See, e.g., Felix Perles, “A Miscellany of Lexical and Textual Notes on the Bible,”

JQR 2 (1911): 97–103; Stephen J. Lieberman, “A Mesopotamian Background for the So-Called Aggadic ‘Measures’ of Biblical Hermeneutics?,” *HUCA* 58 (1987): 164–66; Richard C. Steiner, “The Two Sons of Neriah and the Two Editions of Jeremiah in the Light of Two ATBASH Code-Words for Babylon,” *Vetus Testamentum* 56 (1996), 75–84; cf. note 129 below. For a general overview of letter speculations in late antiquity see, e.g., Franz Dornseiff, *Das Alphabet in Mystik und Magie*, 2nd ed. (Leipzig, 1925); Bruria Bitton-Ashkelony and Arieh Kofsky, *The Monastic School of Gaza* (Leiden, 2006), 108–29; Tzahi Weiss, *Letters by which Heaven and Earth were Created: The Origins and the Meanings of the Perceptions of Alphabetic Letters as Independent Units in Jewish Sources of Late Antiquity* (Jerusalem, 2014) [Hebrew].

from a Greek one sometime before the 6th century CE, most probably by bilingual scribes, just as that same Greek cipher, attested already in the 2nd century CE, was adapted into Coptic in the 4th century CE. In all three scribal traditions—Greek, Coptic, and Syriac—this cipher was mainly used paratextually in order to encode scribes' names and prayers in colophons or inscriptions. This identical scribal practice is documented for over a millennium. Only when detached by the rabbis from its scribal context, where it was strictly used for encoding, could this cipher be transformed into a hermeneutic technique for decoding the Bible.

The ATBH of R. Hiyya: Decoding the Bible

The ATBH cipher is found only once in classical rabbinic literature, in tractate Sukkah of the Babylonian Talmud (52b), as part of a string of homilies dealing with the evil *yetzer* (יצר הרע).³ The cipher is adduced to a midrash attributed to R. Shmuel b. Nahmani, an early 4th century Palestinian sage, who transmitted it in the name of his teacher R. Yonathan.⁴

א"ר שמואל [אל] בר נחמני א"ר יונתן יצר הרע מסיתו לאדם
בעול [ם] הזה ומעיד בו לעול [ם] הבא שנ' [מ]פנק מנוער
עבדו ואחר [יתו] יהיה מנון. שכן באטבח⁵ דבי ר' חייא ב"ר
חניני⁶ קורין לסהדא⁷ מנון

R. Samuel b. Nahmani in the name of R. Yonathan said: The evil *yetzer* entices man in this world and testifies against him in the world to come, as it is said, "He who indulges his servant from youth shall have him become a *manon* at the last" (Prov. 29:21). Since, according to the ATBH of the school

of R. Hiyya, a witness (SHDA) is called *manon* (MNWN).

R. Shmuel b. Nahmani warns against the harsh outcome of nurturing the evil *yetzer*. Even though it is the evil *yetzer* who entices man in this world, nonetheless it is the *yetzer* who will testify against him in the world to come. R. Shmuel b. Nahmani bases this warning on the rather enigmatic verse of Proverbs 29:21. According to his reading, the "servant" or "slave" (עבד) in the verse refers to the evil *yetzer*; "youth" (מנוער) to this world; and "at the last" (אחריתו) to the world to come. Yet how does he interpret *manon* in the verse? The word *manon* is a cryptic biblical *hapax* and many suggestions have been offered in order to ascertain its meaning in the biblical context.⁸ Notwithstanding its original meaning, it seems clear that according to R. Shmuel b. Nahmani, *manon* is somehow understood as "testifying" or "admonishing."

The justification of this understanding of *manon* requires the use of an elaborate substitution cipher attributed to the school of R. Hiyya in some manuscripts, or to the school of R. Aha b. R. Hanina in others. This diversity in the attribution could be explained in light of the London manuscript and the Geniza fragment: it seems that originally the ATBH was attributed to the school of an obscure R. Hiyya b. R. Hanina.⁹ The later medieval scribes who probably did not recognize that sage hypercorrected the name to that of better known rabbis: either R. Hiyya or R. Aha b. R. Hanina.¹⁰

The name of this cipher, ATBH, indicates that *Alef* substitutes *Tet*, and that *Bet* substitutes *Het*. Although the Talmud does not supply the full cipher (which we will discuss in the following section), it is evident from the decoding of מנון that *Mem* is substituted

³ For a comprehensive analysis of the evil *yetzer* in rabbinic literature, which highlights its demonic traits, see now Ishai Rosen-Zvi, *Demonic Desires: Yetzer Hara and the Problem of Evil in Late Antiquity* (Philadelphia, 2011). We here follow Rosen-Zvi (p. 12) in rendering יצר הרע as evil *yetzer* so as not to use the many unsatisfactory and misleading translations suggested so far (e.g., "inclination," "disposition," "desire," etc.).

⁴ Cited according to Ms London—BL Harl. 5508 (400). All translations in this article are ours except when indicated otherwise.

⁵ So in most manuscripts. However, the Geniza fragment (t-s f1755 frag.1r), New York—JTS Rab. 218 (EMC 270), and Oxford—Bodl. heb. e. 51 (2677) all have אבטח.

⁶ In a damaged Geniza fragment (t-s f1755 frag.1r) we have: דבי ר' חייא ברן. In Ms Vatican 134, Ms Oxford Opp. Add. fol. 23 as well as in the printed version of Pesaro, the version is דבי ר' חייא (of the school of R. Hiyya). MS Munich 140 has דר' חייא and Vilna של דר' חייא (of R. Hiyya). In Mss Munich 95, New York—JTS Rab. 218 (EMC 270), Oxford—Bodl. heb. e. 51 (2677), one finds the cipher attributed to דבי ר' אחא ב"ר חנינא (the school of R. Aha b. Hanina).

⁷ The form סהדא is attested in all manuscripts except for Vatican 134 and the Pesaro and Vilna print, which have סהרה.

⁸ So, e.g., Menahem Z. Kadari, *A Dictionary of Biblical Hebrew* (Ramat Gan, 2007), 628 [Hebrew] suggests it might mean 'weak'; Godfrey R. Driver, "Linguistic and Textual Problems: Ezekiel," *Biblica* 19 (1938): 61 interprets it as 'ungrateful.' Ludwig Koehler and Walter Baumgartner, *The Hebrew and Aramaic Lexicon of the Old Testament*, vol. 2 (Leiden, 1995), 600, propose 'insolent.' David J. A. Clines, ed., *The Dictionary of Classical Hebrew*, vol. 5 (Sheffield, 2001), 349, offers three possibilities: 'insolent/weak/pained.'

⁹ In b.Menachot 53b, a R. Hiyya b. R. Hinena is mentioned. In that *sugya* there is a discussion between him and his father, the rather well-known R. Hinena b. Papa. Therefore one can date that R. Hiyya b. R. Hinena to the second half of the 4th century. However, this sage does not seem to be identical to R. Hiyya b. R. Hanina to whom the ATBH is attributed.

¹⁰ The fact that this cipher is attributed to an almost unknown sage might point to the possible authenticity of this tradition. See below note 132.

by *Samech*, *Nun* by *Heh*, and *Waw* by *Daleth*. Once deciphered, מנון (*manon*) turns out to represent סהדה (*sahada*), namely: ‘witness.’

It would seem that this explanation is not an organic part of the R. Shmuel b. Nahmani’s dictum, since most occurrences of the formula שכן ב . . . קורין (= “since in [a certain language or place] they call X Y”) in the Babylonian Talmud are explanatory glosses following various sayings, mainly of Palestinian sages.¹¹ To be sure, many of these etymologies are indeed documented in Palestinian sources in other contexts,¹² and hence such glosses probably reflect or even transmit the original intention of those sages. However, as we shall see, this does not seem to be the case here, and the explanation is most probably a Babylonian gloss.¹³

That this is in fact an editorial addition becomes even clearer when compared to a similar midrash preserved in *Bereshit Rabba*, a Palestinian Midrash Aggadah.

אמר ר' אבין כל מי שמפנק את יצרו בנערותו סופו להיות מנון עליו בזקנותו מה טעם 'מפנק מנוער עבדו ואחריתו יהיה מנון'¹⁴

R. Avin said: Anyone who indulges his *yetzer* in his youth, shall have him become a *manon* against him in his old age. What is the reason? “He who indulges his slave from youth shall have him become a *manon* at the last.” (Prov. 29:21)

R. Avin, a contemporary of R. Shmuel b. Nahmani, claimed that whoever pampers his evil *yetzer* during his youth, the evil *yetzer* will act as a *manon* against him in

his old age. This again is based on the same verse from Proverbs which we have seen earlier. Although it is not quite clear how exactly R. Avin interprets *manon*, it is nonetheless evident from his use of the otherwise undocumented expression להיות מנון עליו (“become a *manon* against him”), that he regards *manon* to be an actual word and not a code to be deciphered.

Most commentators tended to differentiate R. Shmuel b. Nahmani’s understanding of *manon* as ‘witness’ from that of R. Avin’s.¹⁵ However, the comparison between the two homilies suggests that להיות מנון עליו (“become a *manon* against him”) is equivalent to the simpler expression מעיד בו/עליו (“testify against him”)—the two sages diverging on whether the evil *yetzer* will be a *manon* against his owner in his old age (R. Avin) or in the world to come (R. Shmuel b. Nahmani). It seems therefore most likely that these are parallel traditions, and that they shared a similar understanding of *manon*. Yet if these Palestinian sages did not regard *manon* as a code to be deciphered, how did they originally understand it? And why was that meaning lost in a Babylonian context?

Alexander Kohut had suggested that the Palestinian sages understood *manon* as a rendering of the Greek μνήμων (*mnēmōn*), which he understood as ‘advisor, secretary.’¹⁶ This is indeed possible, as μνήμων is documented, though rather infrequently, as a technical and administrative term for a secretary and even a recorder in court.¹⁷ However, following Kohut’s suggestion, it is hard to account for the omission of the consonant ‘m’ when rendering μνήμων (*mnēmōn*) as מנון (*manon*).

We believe Kohut was correct in searching for a Greek origin for *manon*, but we would like to suggest an alternative word. It seems likely that the Palestinian Rabbis understood *manon* in light of μνηύων (*mēnuōn*), the very well-documented present participle

¹¹ E.g., b.Brachot 32a (שכן רבי אליעזר בן יעקב קורין לאלפי"ן); (עייני"ן ולעייני"ן אלפי"ן); b.Nidah 45b, b.Brachot 61a, b.Eruvin 18a, Shabbat 95a (שכן בכרכי הים קורין לקלעיאת בנייתא); b.Sukka 5b, 35a, b.Hagiga 13b (שכן בבבל קורין לינוקא רביא); b.Sanhedrin 76b, b.Shabbat 36b, b.Moed Katan 28a (שכן בלשון יוני קורין לאחת); b.Sanhedrin 110b (שכן בכרכי בים קורין לינוקא פתיא); b.Sotah 13a (שכן בלשון שכן בלשון); b.Shabbat 63b (שכן בכרכי הים קורין למכירה כירה); b.Sotah 42a (שכן בכרכי הים קורין לגמורה); b.Sukka 35a (שכן בלשון יוני קורין למים הדור).

¹² E.g., Bereshit Rabba 79 (J. Theodor and H. Albeck, eds., *Midrash Bereshit Rabba*, vol. 3 [Jerusalem 1965], 946–48); 87 (1061); y.Brachot 9, 1; cf. b.Rosh Hashana 26a.

¹³ In Babylonian Aramaic, one would expect the form סהדה. The form סהדה could be understood as the Palestinian שהיד/שהיד, with the emphatic ending ה meaning ‘the witness.’ However, this is seldom attested, and it seems more plausible that this is an unorthodox spelling of the Babylonian form סהדה. If so, this further highlights the artificiality of this cipher-explanation and its Babylonian provenance (we thank Hanan Mazeh for these thoughts).

¹⁴ Bereshit Rabba 22, 6 (Theodor and Albeck, *Midrash Bereshit Rabba*, vol. 1, 212).

¹⁵ So Theodor-Albeck *ad loc.* interpret *manon* in R. Avin’s homily as ‘master, ruler’ (as in *Talkut Shimoni to Proverbs* [Warsaw 1878], 962, where *manon* is interpreted as מושל). Recently, Rosen-Zvi (*Demonic Desires*, 67 and n. 13) has interpreted *manon* in R. Avin’s statement as ‘mourner’ based on the LXX (ὁδυνήθησεται), probably deriving מנון from אונן. Thus understood, *manon* describes the man who mourns the fact that he had indulged his *yetzer* (cf. p. 107 and n. 24, where Rosen-Zvi directly contrasts the meaning in b. Sukka to that of R. Avin).

¹⁶ Nathan ben Yehiel of Rome and Alexander Kohut, *Aruch completum*, vol. 5 (Vienna, 1878–92), 177 [Hebrew].

¹⁷ See, e.g., Henry G. Liddell and Robert Scott, *A Greek-English Lexicon* (Oxford, 1996), s.v. μνήμων II. 3. However, μνήμων usually indicates ‘a man with good memory,’ ‘mindful,’ or ‘counselor.’ We would like to thank Margalit Finkelberg and Ynon Wygoda for drawing our attention to the importance of the administrative meaning of μνήμων.

of the verb $\mu\eta\nu\omega$ (*mēnuō*).¹⁸ The verb itself means ‘to reveal, declare, disclose, denounce, betray, or inform,’ and (in judicial contexts) ‘to inform the authorities and to inform against someone’ (κατὰ τινος).¹⁹ Hence, $\mu\eta\nu\omega\nu$ is someone who discloses confidential information.²⁰ Thus understood, the intentions of the homilist become clear: the evil *yetzer* will inform against the man who nurtured him (whether in the heavenly court or elsewhere) and disclose his sins, even though it was the *yetzer* himself who induced him to commit them.

Since all three Palestinian sages—R. Avin, R. Shmuel b. Nahmani, and especially R. Yonathan—were well-acquainted with Greek, they did not need to explain why *manon* meant an informer.²¹ However, when this dictum was transmitted within a Babylonian context, the original meaning was lost.

Consequently, an anonymous Babylonian editor, to whom the Greek-based interpretation of *manon* was unknown, was forced to find some kind of explanation in order to justify the connection between *manon* and testifying. The somewhat strenuous solution finally suggested employed an AṬBḤ cipher, previously unattested in extant rabbinic literature, as an elaborate hermeneutical tool for decoding *manon*. This explanation was most likely adduced to the homily at one of the stages of the redaction of the Babylonian Talmud—sometime prior to 500 CE—before the *sugya* took on its final form by the post-amoraic editors (the *Stam*).²²

¹⁸ This suggestion though is not without difficulties, as one would expect the rendering of $\mu\eta\nu\omega\nu$ to be מניין (since η and υ were pronounced at the time as i). However, it is possible that the pronunciation of מנין by the rabbis did not necessarily follow the massoretic vocalization and hence might have sounded closer to $\mu\eta\nu\omega\nu$. Be that as it may, it seems likely that here, as in many other Palestinian homilies, the biblical word was understood in light of the Greek, whether $\mu\eta\nu\omega\nu$ or otherwise. We would like to thank Yehuda Liebes and Hanan Mazeh for these insights.

¹⁹ Liddell and Scott, *Greek-English Lexicon*, s.v. $\mu\eta\nu\omega$, especially meaning II.

²⁰ $\mu\eta\nu\omega\nu$ is attested hundreds of times in all periods. For the meaning, ‘informer to the authorities,’ see, e.g., Plato, *Leg.* 730d5; 914a8; for ‘betrayal of information to the enemy,’ see, e.g., Josephus. *Ant.* 9.53.

²¹ Most recently, Daniel Sperber, *Greek in Talmudic Palestine* (Ramat Gan, 2012), 116 n. 7. In *y. Megilla* 1, 8 (Academy, 748), R. Yonathan is of the opinion that Greek is suitable for *zemer* (song of poetry) and Saul Lieberman notes (*Greek in Jewish Palestine/Hellenism in Jewish Palestine*, 3rd ed. [New York, 1994], 24): “Only a man who knew the Greek literary style could express an opinion on the superior suitability of Greek for the genre of poetry.”

²² The homily, including the cipher, clearly stood before the post-amoraic redactors (Stammim) who wove together the various homilies. Ishay Rosen-Zvi has recently analyzed the careful redaction of

Nonetheless, the appearance of this cipher raises a few questions: from where did this cipher originate? And why do we not hear of such a cipher prior to the 5th or 6th century in Babylonia? As we shall see, the answer to these questions lies most probably outside of the rabbinic culture. But first let us focus on the interpretation of this cipher in later Jewish literature.

The AṬBḤ in Later Jewish Sources

The midrash in tractate Sukkah does not elucidate the entire substitution scheme of the AṬBḤ cipher. Nonetheless, it seems rather evident that the cipher is based on dividing the alphabet into groups of nine. This kind of division gives the cipher decimal qualities resulting from the combination of the numerical value of each letter with its substitute. So, for example, both *Aleph* (1) + *Tet* (9) and *Beth* (2) + *Heth* (8) add up to 10, and *Samekh* (60) + *Mem* (40) add up to 100. The only exception is the combination of *Nun* (50) and *Heh* (5), which equals 55.

This understanding of the inner logic of the AṬBḤ receives further confirmation from a late midrash quoted in *Exodus Rabba* which interprets Numbers 23:9, where Bal'am describes the people of Israel as an isolated nation which does not intermingle with other nations: “Behold (HN, הן), the people shall dwell alone, and shall not be reckoned among the nations.” The midrash compares Israel’s isolation to the exceptional character of the letters *He* and *Nun*, which comprise the word HN:

הן עם לבדד ישכון מהו הן? כל האותיות מזדווגין חוץ מב' אותיות הללו. כיצד? א"ט הרי י' ב"ח הרי י' ג"ז הרי י' ד"ו הרי י', נמצא ה' לעצמה. וכן האות ה' אין לה זוג: י"צ הרי ק' כ"פ הרי ק' ל"ע הרי ק' מ"ס הרי ק', נמצא נ' לעצמה. אמר הקב"ה: כשם ששני אותיות הללו אינן יכולין להזדווג עם כל האותיות אלא לעצמן כך ישראל אינן יכולין להדבק עם כל העובדי כוכבים ומזלות הקדמונים אלא לעצמן.²³

“HN the people shall dwell alone.” What is HN? All letters pair except for these two letters (i.e., *Heh* and *Nun*). How? *Aleph* and *Tet* equal 10; *Bet* and *Het*

the entire *sugya* dealing with the evil *yetzer* (Sukka 51b–52b). He has shown that the sexual overtones of the *yetzer* in the *sugya* were created “by alternating between homilies on the *yetzer* and those on fornication and sexual desire” (Rosen-Zvi, *Demonic Desires*, 108). He has also pointed out that the hyper-sexualization of the evil *yetzer* in the redactory strata may be explained as a reaction to the fundamental sexual asceticism in Eastern Christianity (ibid., 118).

²³ *Exodus Rabba* (Vilna) 15, 7.

מ	ל	כ	י	ד	ג	ב	א
ס	ע	פ	צ	ו	ז	ח	ט
100	100	100	100	10	10	10	10

Figure 1—ATBH in *Exodus Rabba*.

equal 10; *Dalet* and *Waw* equal 10. Consequently, *Heh* is on its own. The letter *Nun* too has no pair: *Yod* and *Ṣadi* equal 100; *Kaf* and *Peḥ* equal 100; *Lamed* and *ʿAyin* equal 100; *Mem* and *Samech* equal 100. Consequently, *Nun* is on its own. Said the Holy One blessed be He: just as these two letters cannot pair with all the letters, but are on their own, so Israel cannot conjoin with the ancient star and zodiac worshippers, but are on their own.

The midrash presents the first eighteen letters of the alphabet and claims that, excluding *He* and *Nun*, each has a pair, the combination of which equals either 10 or 100 (see Fig. 1). In contradistinction, the letters *He* and *Nun*, whose numerical values are 5 and 50, respectively, do not associate with any other letter. Thus their combination in the verse (*HN*) represents Israel's isolationist stance. The Midrash does not at all address the final four letters of the alphabet (*Qof*, *Resh*, *Shin*, *Taf*).

It is important to stress that this homily is primarily interested in the decimal quality of certain pairs of letters, and not in their use in the ATBH substitution cipher. Moreover, it is rather likely that the author of the midrash was ignorant of the cipher altogether. Hence it seems futile to surmise whether the singling out and coupling of *He* and *Nun* in the midrash indicates that they also can be substituted for each other, as in the Babylonian Talmud cipher, or that both remain un-substituted, similar to the *Epsilon* and *Nu* in the Greek cipher to be discussed below. However, it is important to note that, as in the Babylonian Talmud, the midrash does not differentiate between a regular and final *Nun*. This is significant in light of the two different keys offered to the ATBH cipher in the Babylonian Talmud by medieval Jewish commentators, to which we now turn.

In their commentaries to tractate Sukkah, R. Hananel (965–1055 CE) and—according to the best manuscripts—Rashi (1040–1105 CE) suggested the same key to the Talmudic cipher (see Fig. 2). According to this key, the four last letters, which were neither mentioned in the Babylonian Talmud nor in the midrash, are composed of two pairs: *Qof* + *Taf* and *Resh* + *Shin*,

א	ב	ג	ד	ה	ו	ז	ח	ט
ט	ח	ז	ו	נ	ד	ג	ב	א
10	10	10	10	55	10	10	10	10

י	כ	ל	מ	נ	ס	ע	פ	צ
צ	פ	ע	ס	ה	מ	ל	כ	י
100	100	100	100	55	100	100	100	100

ק	ר	ש	ת
ת	ש	ר	ק
500	500	500	500

Figure 2—ATBH according to R. Hananel and Rashi.

each of which adds up to 500.²⁴ As we shall see, this key is indeed the one used in the Babylonian Talmud.²⁵

However, according to a second key, which was probably introduced in the 11th century by R. Nathan of Rome in his *Arukh*, and later attributed to Rashi,²⁶ the ATBH is a cipher based on twenty-seven letters, the twenty-two regular ones and the five final letters of *Kaf*, *Mem*, *Nun*, *Pe* and *Ṣadi*, which were assigned the numeric values of 500, 600, 700, 800, and 900, respectively.²⁷ The following definition appears in the *Arukh*:

אטב"ח [. . .] פירוש: כגון אתב"ש כן א"ט ב"ח ג"ז ד"ו י"צ כ"פ ל"ע מ"ס ק"ץ ר"ף ש"ן ת"ם. כת ראשונה י"י. כת שניה מאה מאה. כת שלישית אלף אלף. נשאר הנ"ך שאין להם זוגות. סהרה: מנון, במקום ס'; מ'; במקום שני ההי"ן: שני נונין, במקום ד': ר'.²⁸

“ATBH” [. . .] Interpretation: Similar to ATBŠ, thus: *Alef-Tet*, *Bet-Het*, *Gimel-Zain*, *Dalet-Waw*; *Yod-Ṣadi*, *Kaf-Pe*, *Lamed-Ayin*, *Mem-Samekh*;

²⁴ R. Hananel, b. Sukkah 52b.

²⁵ This interpretation has also been adopted by modern scholars; see Marcus Jastrow, *A Dictionary of the Targumim, the Talmud Babli and Yerushalmi, and the Midrashic Literature* (London, 1903), 42; Jacob Levy, *Neuhebräisches und Chaldäisches Wörterbuch über die Talmudim und Midraschim*, vol. 1 (Leipzig, 1876), 58.

²⁶ In some manuscripts and in the printed editions. Cf., e.g., *Hokhmat Shelomo*:

רש"י בד"ה באטב"ח כו' נ"ב באטב"ח אלף ביתא הוא א"ט ב"ח ג"ז ד"ו הרי עשריות י"ץ כ"ף ל"ע מ"ס הרי מאות ק"ת ר"ש הרי חמש מאות נשאר ה"ן שלא היה לה"א בן זוג בעשריות ולא לנו"ן במאות לפי סדר האותיות וחברם יחד נמצא כו' ע"כ הגירסא ברש"י בספרים מדויקים וכן הביאו בפ"י ע"י ופ"י זה שנכתב בספרים שלנו הוא פי' הערוך ולא של רש"י.

²⁷ For modern scholars who adopted this interpretation, see: Eliezer Ben-Yehuda, *A Complete Dictionary of Ancient and Modern Hebrew*, vol. 1 (Tel Aviv, 1960), 166 [Hebrew]; cf. Avraham Even Shushan, ed., *Even Shushan's New Dictionary*, vol. 1 (Jerusalem, 1993), 33 [Hebrew].

²⁸ Nathan ben Yehiel and Kohut, *Aruch completum*, 176–77.

א	ב	ג	ד	ה	ו	ז	ח	ט
ט	ח	ז	ו	נ	ד	ג	ב	א
10	10	10	10	55	10	10	10	10

י	כ	ל	מ	נ	ס	ע	פ	צ
צ	פ	ע	ס	ה	מ	ל	כ	י
100	100	100	100	55	100	100	100	100

ק	ר	ש	ת	ך	ם	ן	ף	ץ
ץ	ף	ן	ם	ך	ת	ש	ר	ק
1000	1000	1000	1000	1000	1000	1000	1000	1000

Figure 3—ATBH according to the Arukh.

Qof-Final Šadi; Resh-Final Pe, Shin-Final Nun, Tav-Final Mem. The first group [equals] ten each. The second group [equals] one hundred each. The third group [equals] one thousand each. *He-Nun-final Kaf* remain without a pair. *SHDH* [renders] *MNWN*: *Samekh* is substituted by *Mem*; the two *Hes* are substituted by two *Nuns*; *Dalet* is substituted by *Waw*.

Together the twenty-seven letters create a symmetrical system of nine letters in three groups, with the numerical values of 10, 100, and 1,000 (including most probably final *Kaf*),²⁹ with the exception of *He* and *Nun* (see Fig. 3).

Nevertheless, there are two main problems with this key as an interpretation of the Talmudic cipher: first, to the best of our knowledge, no pre-medieval Jewish source applies *Gematria* to the final letters. More importantly, according to this key, the word *מָנוֹן* (*manon*) cannot be deciphered as *סְהָדָה* (*sehada*) since the final *Nun* (ן) should be substituted with *Shin* and not *He*. In order to reach *סְהָדָה*, one must spell *manon* in the totally unconventional way of *מָנוֹנִי*, with two regular *Nuns*.³⁰

²⁹ It is not clear if, according to the *Arukh*, the final *Kaf* is left unsubstituted or whether it could be substituted by *He* and *Nun*.

³⁰ These difficulties, especially the second one, led some rabbis to criticize the reliability of this key, at times unaware of one suggested by R. Hananel and Rashi: see for example the 17th century Shemuel Eidels (מהרש"א) who, after explaining the full scheme of the ATBH including the final letters, wrote: *אחרונה* וק"ק דהא נ"ן אחרונה ה' אלא ש' היא זוגה ולא הוה סהדה דמנון נ' פשוטה היא ולא יבוא במקומה ה' אלא ש' היא זוגה ולא הוה סהדה; see further Shmuel Waldberg, *Darkei ha-Shinuyim* (Lemberg, 1870), 10a-11a, who brought more evidence in support of Rashi's key (with thanks to Hanan Mazeh for this reference).

This problem is so glaring that one is forced to ask why R. Nathan of Rome, who was most likely aware of R. Hananel's interpretation,³¹ introduced this key. As we shall argue below, this new interpretation of the cipher might better be understood in light of the Greek cipher used by Byzantine scribes at the time of the composition of the *Arukh*.

From the Middle Ages onwards, the ATBH became more prevalent in Jewish texts, mainly according to the second key, which included the final letters. It was used hermeneutically by biblical commentators, most prominently by R. David Kimhi (Radak, 1160–1235 CE). So, for example, in Ezekiel 47:13 it is stated: *כה אמר אדני יי גה גבול* ("Thus said the Lord God: *GH* is the border"). Radak comments on this verse:

גה כמו זה [. . .] והגים"ל זי"ן באלפא ביתא דאטב"ח
GH means *ZH* (=this) [. . .] and the *Gimel* is *Zayin* according to the ATBH alphabet.³²

The cipher is also found in Kabbalistic texts as one of various methods of letter speculation.³³ Its decimal

³¹ For R. Nathan of Rome's acquaintance with R. Hananel's commentary, see Jay Rovner, "Notes on the Attitude of R. Nathan of Rome, Author of the *Arukh*, to R. Hananel's Commentary to the Babylonian Talmud," *The World Congress for Jewish Studies* 11/3, vol. 1 (1993): 191–97 [Hebrew].

³² See further R. David Kimhi's commentary on Ez. 21:20, 25:7. Cf. Waldberg, *Darkei*, 11a.

³³ So, e.g., Gershom Scholem in his catalogue of the Kabbalistic manuscripts in the National Library in Jerusalem (*Catalogus Codicum Cabbalisticorum Hebraeorum* [Jerusalem, 1930], 64) mentioned a short composition that was dedicated to the ATBH. It is also worth mentioning that in the Hekhalot Literature, one finds the ATBH not as a cipher, but rather as a seal or a holy name. So for example we find in §417 (according to ms. Oxford 1531;

properties were even used in theosophical discussions concerning the interactions between the ten *sephirot* in the Godhead.³⁴ However, additional proof that the original cipher used by the rabbis did not include the final letters, but rather followed the key suggested by R. Hananel and Rashi, can be found in a Syriac scribal practice.

The Alphabet of Bardaisan: A Syriac Scribal Practice

When a Syriac scribe completed copying a manuscript, he usually recorded in a colophon certain facts concerning himself and his work, which are, as William Hatch neatly summarizes,

the date; the name of the convent or city in which the codex was written; the person or persons for whom it was intended; and the name of the copyist with his ecclesiastical status and certain depreciatory epithets, such as the sinner (ⲥⲁⲃⲁ), the wretched (ⲛⲟⲩ) [. . .]. Occasionally the scribe indicated his name by means of fully written numerals representing a letter of the name;³⁵ and sometimes he used

Peter Schäfer et al., eds., *Synopse zur Hekhalot Literatur* [Tübingen, 1981]):

מיד הראשון תופס בידו ומשלימו לשיני והשיני לשלישי והשלישי לרביעי והרביעי לחמישי והחמישי לשישי והשישי לשביעי והשביעי מעלך ומושיבך בחיק אטבח יי' אלהי ישראל בחיק אטבח יי' אלהי ישראל בחיק שתקיייר יי' אלהי ישראל { שר } שנקרא שמו אה שתקיייר יי' אלהי ישראל.

See also *ibid.*, §§415–16, 419, 501. Gershom Scholem (*Jewish Gnosticism, Merkavah Mysticism, and Talmudic Tradition* [New York, 1960], 70) and Joseph Dan (“A Name of an Eight,” in *Tribute to Sara: Studies in Jewish Philosophy and Kabbalah Presented to Professor Sara O. Heller Wilensky*, M. Idel et al. eds. [Jerusalem, 1993], 126–28 [Hebrew]) discussed this name, especially in its relation to the name אֶזְכָּרָה, which is composed of paired letters that equal eight, and the name שְׁתַּקִּיר which is composed of the four last letters of the alphabet. Nevertheless, neither mentioned the ΑΤΒΗ of R. Ḥiyya, nor did they mention the possibility that these three names were based on alphabetic substitution ciphers.

³⁴ See, e.g., Hayim Vital, *Etz Hayim*, 35, 4:

דרוש אטב"ח והוא לבאר מציאות אלפא ביתא דאטב"ח על תיקון הנוקבא מלכות דע"כ הנוקבא שהיא שיעור שלה מדה א' מן המדות של ד"א ונמצא שהיא עשירית כי אין בה רק מדה א' מ' מדות דו"א אמנם כשנגדלת ונעשית פרצוף גמור מ"ם נאז חלקה אותו וחו"ל חלקים נגד י"ס וכל נקודה מהם גדלה ונעשית מדה א' שלימה וזה סדרה א"ל הוא כתר המלכות כי חדר ח"ו יסוד י"ב בניה ד"ו דעת י"ד אל חסד כ"ב בבורה ל"ע ת"ת מ"ב נצח ק"ח ח"ו יסוד י"ב מלכות.

³⁵ This method is usually called in manuscripts **ⲕⲁⲛⲁⲛⲁⲛⲁⲛⲁⲛ** (Alphabet of Simon). On this method, see William H. P. Hatch, *An Album of Dated Syriac Manuscripts* (Boston, 1946), 17 n. 2 (and references); Jan P. N. Land, *Anecdota Syriaca II: Joannis Episcopi Ephesi monophysitae scripta historica quotquot adhuc inedita superer-*

Syriac arithmetical figures. Again he sometimes employed the so-called alphabet of Bardesanes, which was a kind of a cipher or cryptic writing.³⁶

Hatch mentions three different systems the scribes used in order to encode their names. The first two were based solely on the numerical value of the letters, while the third system was a substitution cipher traditionally attributed to the arch-heretic Bardaisan (154–222 CE). The name of this alphabet appears, in relatively late manuscripts, in various forms: ܐܕܝܢܝܐ (Daisanian alphabet); ܐܠܦܒܝܬܐ ܕܒܪܕܝܣܢܐ (Alphabet of Bardaisan); ܐܠܦܒܝܬܐ ܕܒܪܕܝܣܢܐ (the letters of Bardaisan); ܐܠܦܒܝܬܐ ܕܐܕܝܢܝܐ (Daisanian letters).³⁷

The most explicit attribution of this cipher to Bar-
daisan is found in a manuscript from 1352 CE:³⁸

החלטתו של בית דין זה היא סופית ובלתי ניתנת לערעור.
החלטתו של בית דין זה היא סופית ובלתי ניתנת לערעור.

In addition, we have written the Alphabet of Bar-
daisan the wicked, with which he and his wicked
sect were familiar.

According to Adalbert Merx, it is possible that the attribution of this cipher to Bardaisan is due to his interest in astrological calculations.³⁹ Rubens Duval, on the other hand, proposed that it was attributed to Bardaisan “parce que Bardesanes est le premier et le plus célèbre de gnostiques de la Syrie et devait naturellement endosser la paternité de tout ce qui touchait aux

ant (Leiden, 1868), 13; Eduard Sachau, *Verzeichniss der syrischen Handschriften der Königlichen Bibliothek zu Berlin*, vol. 2 (Berlin, 1899), 706. We have not been able to find an explanation for attributing this Alphabet to Simon.

³⁶ Hatch, *An Album of Dated Syriac Manuscripts*, 17. Cf. William Wright, *Catalogue of Syriac Manuscripts in the British Museum, Acquired since the Year 1838*, vol. 3 (London, 1870–1872), xxviii: “Sometimes an affectation of humility led him [i.e., the scribe] to conceal his own name under the thin disguise of numerals or numerical values, or by the use of the so-called alphabet of Bardaisan.”

³⁷ References of the various forms are given in the following notes.

³⁸ Cod. Vat. Sir. 96 fol. 159a dated to 1352, cited according to Stefanus E. Assemanus and Josephus S. Assemanus, *Bibliothecae Apostolicae Vaticanae: Codicum Manuscriptorum: Catalogus in Tres Partes Distributus*, vol. 2 (Rome, 1758; repr. Paris, 1926), 522. Cf. Adalbert Merx, *Bardesanes von Edessa, nebst einer Untersuchung über das Verhältniss der clementischen Recognitionen zu dem Buche der Gesetze der Länder* (Halle, 1863), 61–62; Land, *Anecdota Syriaca*, 13–14 (who also cites BM MS 7206, dated to the 17th century, which has ܡܬܬܝܬܐ ܕܡܪܝܢ ܕܥܕܝܬܐ); Robert Payne-Smith, *Thesaurus Syriacus* (Oxford, 1879–1901), 215.

³⁹ Merx, *Bardesanes von Edessa*, 62.

λ	υ	λ	ι	ε	ο	ι	ε	λ
λ	ε	ι	ο	λ	ι	λ	υ	λ
10	10	10	10	55	10	10	10	10

,	ς	λ	ρ	λ	ε	λ	ε	ς
ς	ε	ι	ε	ε	ρ	λ	ς	,
100	100	100	100	55	100	100	100	100

ρ	ι	ε	λ
λ	ε	ι	ρ
500	500	500	500

Figure 5—The Alphabet of Bardaisan.

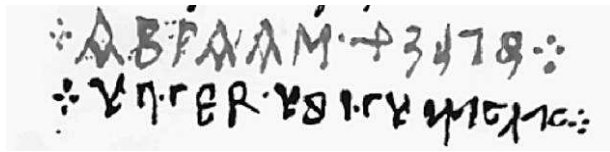



Figure 6—Colophon from BM Add. MS 14,558.

means ܨܠܫܬܐ, Stephen.⁴⁶ In another manuscript, probably from Tagrit, after stating that he had completed his work on Monday the 10th of Nisan 856 (=545 CE), the scribe added the text appearing below, in which ܨܠܫܬܐ (“ZŠDŠZŠ”) means ܨܠܫܬܐ (“George”) according to the alphabet of Bardaisan:

וְהָיָה זֶמְרָתָם כִּי יִשְׁמְרוּ אֶת הַשְּׁמִירָה אֲשֶׁר יִשְׁמְרוּ וְיִשְׁמְרוּ וְיִשְׁמְרוּ
וְיִשְׁמְרוּ וְיִשְׁמְרוּ וְיִשְׁמְרוּ וְיִשְׁמְרוּ וְיִשְׁמְרוּ וְיִשְׁמְרוּ

Whoever reads this [i.e., this manuscript] should pray for the sinner ZŠDŠZŠ who had collated [this manuscript], that God may forgive all his failings,⁴⁸ yea and amen.

In yet another manuscript, this one from 557 CE, a scribe named Abraham recorded his name in red ink in Greek and in the alphabet of Bardaisan with the letters turned 90 degrees counterclockwise:  (=ⲁⲃⲣⲁⲙ, “Abraham”).⁴⁹ This colophon is reproduced in Jan P. N. Land’s 1862 *Anecdota syriaca* (see Fig. 6).⁵⁰

⁴⁶ BM Add. MS 17,176 fol. 97r (Wright, *Catalogue, British Museum*, vol. 3, 1073).

⁴⁷ BM Add. MS 14,431 fol. 157r (ibid., vol. 1, 14–15).

⁴⁸ اِثْم means “mistakes” or “failings” and in the context of manuscript production: “omissions.”

⁴⁹ BM Add. MS 14,558 fol. 171r (ibid., vol. 2, 466).

⁵⁰ Jan P. N. Land, *Anecdota Syriaca I: Symbolae Syriacae* (Leiden, 1862), 233 n. 27 and Figure 1.

It is interesting to note that in the following line, the scribe recorded his name in standard Syriac (although once again turned 90 degrees counterclockwise): ܐܒܪܗܡ ܥܡܝܢܐ ܕܡܝܬܐ ܕܡܝܬܐ ܕܡܝܬܐ (‘‘Abraham the prisoner, pray for me’’).⁵¹ Under these two lines, the scribe once again recorded his name, this time in regular script. This indicates that the scribe’s intention was not necessarily to conceal his name, but rather to display his skill in various scripts.

This scribal practice displays exceptional durability, as it is documented almost unaltered for over 1,300 years. So, for example, on a manuscript dated to 1831,⁵² after a comment in Garshuni (i.e., Arabic in Syriac script): ܐܠܗܐ ܕܡܪܕܐܝܬܐ ܕܡܪܕܐܝܬܐ (‘‘according to the language of the writing of Bardaisan’’; see fol. 145v)—there appears a long note in which several words are written in the alphabet of Bardaisan: ܡܪܕܐܝܬܐ ܕܡܪܕܐܝܬܐ ܕܡܪܕܐܝܬܐ (=ܡܪܕܐܝܬܐ ܕܡܪܕܐܝܬܐ ܡܪܕܐܝܬܐ, ‘‘the servant Morad son of Morad’’). A bit further on, there also appears (fol. 146r): ܕܡܪܕܐܝܬܐ (=ܡܪܕܐܝܬܐ, ‘‘the sinner’’). On the verso (fol. 146v), the full scheme of the alphabet of Bardaisan is given.

Even though the alphabet of Bardaisan was used in colophons almost exclusively for encoding the names of scribes, in a few cases longer texts were encoded in the colophons. In an 8th century manuscript,⁵³ a doxology, as Wright reports, “is followed by six lines of writing in the alphabet of Bardesanes, which have, however, been in great part effaced.”⁵⁴ These lines run as they appear below:⁵⁵

Ciphertext

[illegible]

⁵¹ Similarly, in BM MS 17,193 dated to 874 CE (Wright, *Catalogue, British Museum*, vol. 2, 989) on the first folio the following text is found (ibid., 1001): $\text{سَمِعْتُ} \cdot \text{عَلِي} \cdot \text{بِشَرِّ} \cdot \text{بَلَد}$.

The first and the last words are written in the alphabet of Bar-
daïsan whereas the two middle words are written backwards: ܡܝܫܥܐ
 ܡܫܥܐ (‘‘Abraham, pray for us, the miserable’’).

⁵² BM Add. MS 21,211 (Wright, *Catalogue, British Museum*, vol. 3, 1181–82).

⁵³ BM Add. MS 14,606 (*ibid.*, vol. 2, 744–45).

⁵⁴ Ibid.

⁵⁵ Text and translation according to Wright, *Catalogue, British Museum*, vol. 3, 1181–82.

Plaintext	α	1	ι	10	ρ	100
ܡܬܢ ܕܥܡܕܐ ܕܡܫܝܚܐ ܕܡܫܝܚܐ	β	2	κ	20	σ	200
ܕܡܫܝܚܐ ܕܡܫܝܚܐ ܕܡܫܝܚܐ ܕܡܫܝܚܐ	γ	3	λ	30	τ	300
ܕܡܫܝܚܐ ܕܡܫܝܚܐ ܕܡܫܝܚܐ ܕܡܫܝܚܐ	δ	4	μ	40	υ	400
[ܡܫܝܚܐ]ܡܫܝܚܐ ܕܡܫܝܚܐ ܕܡܫܝܚܐ	ε	5	ν	50	φ	500
[ܡܫܝܚܐ]ܡܫܝܚܐ ܕܡܫܝܚܐ ܕܡܫܝܚܐ	ζ	6	ξ	60	χ	600
Once deciphered, the following scribal prayer is revealed:	ζ	7	ο	70	ψ	700
Our Lord Jesus the Messiah, Son of the Living	η	8	π	80	ω	800
God, who was crucified for (the remission) of our	θ	9	Ϟ	90	ϣ	900

Once deciphered, the following scribal prayer is revealed:

Our Lord Jesus the Messiah, Son of the Living God, who was crucified for (the remission) of our sins; give, Lord, the reward . . . , and help and strengthen and aid the five pairs (of fingers), which have toiled and labored, and sown the seed of truth in this book, which is mixed with pigments.

Likewise, in an 11th century manuscript, a later hand has written an exercise in the alphabet of Bardaisan adducing, for every letter, a word beginning with that letter.⁵⁶ Here are the first three letters:⁵⁷

(God, ܡܫܝܚܐ =) ܡܫܝܚܐ
(The Creator, ܡܫܝܚܐ =) ܡܫܝܚܐ
(The Maker, ܡܫܝܚܐ =) ܡܫܝܚܐ

To sum up, the use of this cipher is well attested in colophons of Syriac manuscripts from the early 6th century up until the 19th century. Its casual use in its first attestations seems to indicate that this is an older scribal practice probably introduced before 500 CE.⁵⁸ The exact same scribal practice, though with a 27-letter cipher, is also attested in Byzantine manuscripts. In what follows, we wish to argue that this Greek cipher, which is rather ancient, served as the origin of both the Syriac and Rabbinic ciphers.

The Greek ΑΘΒΗ: A 27-Letter Cipher

The two main numeral systems in ancient Greek were the Acrophonic (or: Attic)⁵⁹ and the Alphabetic. Yet

⁵⁶ Another rather curious example for using the cipher to encode not only the names of scribes is found in Berlin MS 262 (Sachau 98) (Sachau, *Verzeichniss der syrischen Handschriften*, 794). In this codex, one of the manuscripts (ca. 18th century) has part of the Koran written in Garshuni and a few of the titles of the Suras are presented in the alphabet of Bardaisan: e.g., Sura 14 is titled ܡܫܝܚܐ ܕܡܫܝܚܐ (= سورة إبراهيم = "Sura of Abraham").

⁵⁷ BM 17,273 fol 1v (Wright, *Catalogue, British Museum*, vol. 1, 349).

⁵⁸ Duval, *Traité de grammaire syriaque*, 13.

⁵⁹ The Acrophonic system, mainly attested in Attica, consisted of six simple numeral signs for 1, 5, 10, 100, 1,000, and 10,000 (and

Figure 7—The Alphabetic numerals.

the alphabetic numerals, which were introduced no later than the 5th century BC,⁶⁰ had by the Roman period all but replaced the acrophonic numerals. The alphabetic system, probably following the Semitic practice, assigned numeric value to the letters in their alphabetic order. The system consisted of 27 letters: the 24 letters of the Greek alphabet, together with three archaic letters: *Stigma* (or *Digamma*: ζ), *Qoppa* (ρ) and *Sampi* (ϣ), which were assigned the values of 6, 90, and 900, respectively (see Fig. 7).⁶¹

four compound signs). It is so called since the numerals, except for the sign for the unit (an upright stroke), are represented by the initial letters of their name in Greek. So, e.g., the sign for 10 is Δ (δέκα) and 1,000 is noted by Χ (χίλιοι). This system is at times named the 'Herodianic System' after the grammarian Herodianus who described it. See Marcus N. Tod, "The Greek Numeral Notation," *The Annual of the British School at Athens* 18 (1911–1912): 98–132; "Further Notes on the Greek Acrophonic Numerals," *The Annual of the British School at Athens* 28 (1926–1927): 141–57; and "The Greek Acrophonic Numerals," *The Annual of the British School at Athens* 37 (1936–1937): 236–57. See also Sterling Dow, "Greek Numerals," *American Journal of Archaeology* 56 (1952): 21–23; Bradley H. McLean, *An Introduction to Greek Epigraphy of the Hellenistic and Roman Periods from Alexander the Great down to the Reign of Constantine (323 BC–AD 337)* (Ann Arbor, 2002), 58–61; and Christine Luz, *Technopaignia: Formspiele in der griechischen Dichtung* (Leiden, 2010), 248–49.

⁶⁰ Marcus N. Tod, "The Alphabetic Numeral System in Attica," *Annual of the British School at Athens* 45 (1950): 126–39.

⁶¹ All of these three letters were adapted, like most other Greek letters, from the Phoenician alphabet. The *Digamma*/*Stigma* and the *Qoppa* were actually used in certain Greek scripts. The digamma was derived from the Phoenician *Waw* and similarly occupies the sixth place between *Epsilon* and *Zeta*. The *Qoppa* was derived from the Phoenician *Qof* and likewise stands before the *Rho* (as Q in Latin). The *Sampi* was derived from the Phoenician *Šadi*, but placed at the end of the alphabet after the *Omega*. This is probably due to the fact that the *Sampi*, unlike the *Digamma* and *Qoppa*, was never used in any Greek writing system, and hence its original location was

α	β	γ	δ	ε	ζ	ζ	η	θ
θ	η	ζ	σ	ε	δ	γ	β	α
10	10	10	10	10	10	10	10	10

ι	κ	λ	μ	ν	ξ	ο	π	ρ
ρ	π	ο	ξ	ν	μ	λ	κ	ι
100	100	100	100	100	100	100	100	100

ρ	σ	τ	υ	φ	χ	ψ	ω	ϳ
ϳ	ω	ψ	χ	φ	υ	τ	σ	ρ
1000	1000	1000	1000	1000	1000	1000	1000	1000

Figure 8—ΑΘΒΗ full scheme.

α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ σ τ υ φ χ ψ ω
 θ η ζ ς ε γ β α ϑ π ο ξ ν μ λ κ ϳ ω ψ χ φ υ τ σ

Figure 9—24-letter ΑΘΒΗ.

In this way, no number under 1,000 was represented by more than three letters. These alphabetic numerals were later used as the basis for a cipher, which, for a lack of a better name, we shall call ΑΘΒΗ. The cipher was created by dividing the alphabet into three groups of nine letters, and reversing the sequence of the letters within each group. The combination of each letter with its substitution yields the numerical value of 10 in the first group, 100 in the second and 1,000 in the third. The letters at the center of each group—ε, ν, and φ—were left un-substituted, since the duplication of each of these letters yields the required decimal result. The full scheme appears in Fig. 8.⁶² However, since the *Stigma*, *Qoppa* and *Sampi* were never used in normal writing of Greek, the actual code included only 24 letters (see Fig. 9).⁶³

unknown to the inventor of this numeral notation, who introduced it solely to complete the 27 letters needed for the system. See Tod, “Alphabetic Numeral System”; McLean, *An Introduction to Greek Epigraphy*, 61–64; Luz, *Technopaignia*, 248–50.

⁶² Victor E. Gardthausen, *Griechische Paläographie II: Die Schrift, Unterschriften und Chronologie im Altertum und im byzantinischen Mittelalter*, 2nd ed. (Leipzig, 1913), 311; Luz, *Technopaignia*, 131.

⁶³ As we shall see below, such a scheme is found also in a Coptic inscription.

Bernard de Montfaucon, in his influential monograph *Palaeographia Graeca* (1708), which laid the foundations for the modern discipline of Paleography, was the first to discuss this cipher.⁶⁴ Later, Victor Gardthausen in his masterful *Griechische Paläographie*, expanded de Montfaucon’s discussion and adduced many more examples for the use of this cipher.⁶⁵ Almost all of these examples appear in Byzantine colophons, leading Ruelle to name this cipher “l’alphabet des copistes.”⁶⁶ The earliest of the Byzantine examples

⁶⁴ Bernard de Montfaucon, *Palaeographia Graeca, sive, De ortu et progressu literarum graecarum* (Paris, 1708), 285–88. Cf. Ulrich Kopp, *Palaeographica Critica* (Mannheim, 1829), 268–70, who compared the Greek cipher to the Jewish ATBŠ.

⁶⁵ Gardthausen, *Griechische Paläographie II*, 282–83, 298–319. Gardthausen, after Nöldeke had informed him of the Biblical use of the ATBŠ, concluded that the Greek cipher “scheint aus dem Orient zu stammen” (ibid., 301).

⁶⁶ Charles-Émile Ruelle, “La cryptographie grecque. Simples notes, suivies d’un tableau général des alphabets grecs,” in *Mélanges offerts à M. Émile Picot par ses amis et ses élèves*, vol. 1 (Paris, 1913), 289. Cf. Ruelle’s “Note relative à la cryptographie grecque,” *Bulletin de la Société nationale des Antiquaires de France* 6/5 (Paris, 1894), 120.

cited by Gardhausen is from a 9th century manuscript of the New Testament:⁶⁷

Ciphertext:

ΕΖΛΘΦΒ ΥΕΘΑΘ ΠΒΑΧΠΑΧ ΖΡΘΠΑΝΑΧ

Plaintext:

ἐγράφη χειρί κηρύκου διακόνου

Translation:

Written by the hand of Kerykos the deacon.

A similar example could be found in the colophon of a manuscript from the year 1001 CE (Codex Paris 1085). After a short prayer in (regular) Greek asking the reader to remember the scribe, there appears the following cryptogram:⁶⁸

Ciphertext:

εζαθφβ ζθ υεαλω οελνψλω ποβαοπλχ εν υσαθ
αιζκκψλχ

Plaintext:

ἐγράφη δ[ι]α χερὸς Λέοντος κληρικοῦ ἐν χώρᾳ
αἰγύπτου

Translation:

Written by the hand of Leo the cleric in the land
of Egypt.

This scribal practice is documented in various manuscripts for hundreds of years, and appears as late as the 16th century. So, for example, in a manuscript dated to 1555, the colophon reads:⁶⁹ ζεσζζζ ψσψαχφσν (= γεωργίω τῷ τρυφῶν), that is: “George the delicate.” Interestingly, the same scribe had used this cipher in at least three other manuscripts. The cipher is thus attested for over 700 years in Byzantine colophons, mainly for encoding names and short prayers, in a manner identical to the Syriac scribal practice discussed above.

However, the earliest documented attestations of this cipher indicate that it was not strictly a copyists’ cipher, but was used for rather different purposes. Recently, Giovanna Menci has deciphered and published a papyrus of unknown provenance dated to the 4th century CE, written almost entirely in the AΘBH

⁶⁷ Victor E. Gardthausen, *Griechische Paläographie*, 1st ed. (Leipzig, 1879), 235. As Gardthausen notes, the Λ and Α here represent in fact a *Sampi* written similar to the archaic form Ὼ. Cf. below note 75.

⁶⁸ Gardthausen, *Griechische Paläographie II*, 312. Cf. Montfaucon, *Palaeographia Graeca*, 286.

⁶⁹ Madrid Bibl. nac. O. 6, Gardthausen, *Griechische Paläographie II*, 314.

cipher.⁷⁰ At the heading of the papyrus, there are two Greek words written in Latin script: “Breuion h[i]mation,” most probably to be understood as “a short list of clothes.”⁷¹ And indeed the next twenty-three lines reveal, once deciphered, a list of clothes. So, for example, we find on line 18:⁷²

Ciphertext:

ΩΨ ΗΞΕΘΑΝΧΥQΝΑΝΕΝ

Plaintext:

στῶμα ὀνύχινον ἔν

Translation:

One onyx colored covering

The remaining lines (24–28) consist of a list of food supplies. So on line 24:⁷³

Ciphertext:

ΘΩΠ[ΘΟΣ]ΝQΘΑQΝΑ[X

Plaintext:

ἄσκ[αλώ]νια οἶνο[u

Translation:

An ascalonian jar of wine

As noted by Menci, this document is a *unicum* displaying “un uso privato, nient’affatto mistico, né magico, né religioso.”⁷⁴ This secret wardrobe and victual list seems to have been composed for private use by an individual who was familiar with the Roman world, possibly a soldier, bureaucrat, or merchant.

In contradistinction to this encrypted list, some of the earlier attestations of the cipher appear in a magical context. So, in a magical papyrus (PGM VII) dated to the late 3rd century CE, there is a short love charm (col. XXVII, 969–72), in which the first line is comprised of five words written in the AΘBH cipher. In the line below, the exact same words, written in a

⁷⁰ Giovanna Menci, “Crittografia greca in Egitto: un nuovo testo,” in Traianos Gagos, ed., *Proceedings of the Twenty-Fifth International Congress of Papyrology, Ann Arbor 2007* (Ann Arbor, MI, 2010), 551–64. To the best of our knowledge, Menci is also the first scholar to note, albeit *en passant*, the similarity between the AΘBH and the ΑΤΒΗ in the Babylonian Talmud (ibid., 561). However, she mistakenly supposes that the Talmudic version of the cipher includes the five final letters and thus consisted of 27 letters. (Besides b.Sukk. 52b, she also oddly refers to b.Sanh. 22a and b.Shab 104 [ibid., note 35], although the ΑΤΒΗ is not mentioned there).

⁷¹ Ibid., 552. For the Greek form βρέυιον (from Latin *breve*), see ibid., note 3.

⁷² Ibid., 556.

⁷³ Ibid.

⁷⁴ Ibid., 563.

tachygraphic (that is, shorthand) script, appear unencoded. The text runs as follows (the encoded words appear in boldface type):

κλψρωξθ πθολν οθηων υθ↑ψρλν ρε↑αι⁷⁵
 πότισμα καλόν λαβών χαρτίον ἱερα[τικόν]||
 ἐπίγραφε ἰάω ω εσταβισα-|
 ση τουρεωσαν αθιαχνιωουηνου αχημαχου.|
 φιλτεῖτω με ἡ δεῖνα τῆς δεῖνα ἐμέ, τὸν δεῖνα,
 ποῦσα τὸ ποτόν.⁷⁶

Translation: **A good potion: Take a piece of hieratic papyrus/** A good potion: Take a piece of hieratic papyrus and write on it: “ΙΑΘ Ὁ ΕΣΤΑΒΙΣΑΣΕ ΤΟΥΡΕΘΣΑΝ ΑΘΙΑΧΝΙΘΟΥΕΝΟΥ ΑΧΗΜΑΧΟΥ. Let her, NN, whom NN bore, love me, NN, when she has drunk the drink.”⁷⁷

It is important to note that the words encoded are *not* part of the actual magic formula but rather of the instructions. It seems as if the scribe wished to display his skill both in the use of the cipher and in tachygraphy. Charles-Émile Ruelle, followed by Victor Gardthausen in the second edition of his *Griechische Paläographie*, regarded this magical papyrus as the oldest known example of this particular cipher.⁷⁸ There are, however, even earlier attestations of this cipher, as we shall presently see.

In the miscellaneous compilation known as the *Cesti*, in a chapter titled “Taming of a Horse,” the traveler and eclectic author Julius Africanus (c. 160–c. 240 CE) presents different training methods for reining in an unruly horse.⁷⁹ However, he remarks, such methods

would not be adequate for truly disobedient horses such as those who had been taken in as adults and not previously trained. In order to subdue such horses, Africanus recommended the following procedure:

In the hollow of the hoof of the left front foot, engrave with the left hand with a bronze pen, under a sixteen day old moon, a threat of Roman prescription; the inscription has a necessity of obedience: it lies in the 6th pentagon, in which has been inscribed the signs of the diatonic <lichanos(?)> of the *hypatai*,⁸⁰ *phi*, and *digamma*.⁸¹

In a number of so-called “magical passages” in the seventh *Cestus*, Africanus refers to drawings of magical pentagons, assigned successive numbers.⁸² Most of these pentagons have not come down to us. However, in a Cambridge hippiatric manuscript of the 13th century (Emmanuel College 251, III.3.19) the number of the 6th pentagram was replaced by τῷδε τῷ ὑποκειμένῳ (“the one that is below”);⁸³ and in the margins, there appears a sketch of a lozenge in which four unequal lines read “φε/δολει/κεσο/φεε.” On the right-hand of this geometrical figure appear the letters: αελφχοθ πψλν.⁸⁴

The meaning of the lines within the lozenge remains unclear. However, as to the line next to it, Jean René Vieillefond, following an observation proposed to him by A. M. Desrousseaux, suggested that “l’inscription [. . .] utilise l’alphabet cryptographique dont se servaient parfois les copistes byzantins pour les suscriptions des manuscrits.”⁸⁵ That is, the line was written in the ΑΘΒΗ cipher. With a slight correction (αελφχοθπψλν instead of αελφχοθ πψλν),⁸⁶ the

⁷⁵ The form of the *Sampi* here (and elsewhere in the papyri) is ↑. cf. above note 67.

⁷⁶ The ciphertext and plaintext are cited according to Karl Wessely, *Ein System Altgriechischer Tachygraphie* (Wien, 1896), 9, plate IIb; the rest of the charm is cited according to Karl Preisendanz, ed., *Papyri Graecae Magicae: Die griechischen Zauberpapyri*, 2nd ed., vol. 2 (Stuttgart, 1973), 42. For more on the cipher in this charm, see Victor Gardthausen, “Geheimschrift,” in Pauly-Wissowa, *Real-encyclopaedie der classischen Altertumswissenschaft*, Supplementband 4 (1924): 519; Gardthausen, *Griechische Paläographie II*, 282; and Ruelle, “Note relative,” 120–21.

⁷⁷ Translation according to Hans D. Betz, ed., *The Greek Magical Papyri in Translation (Including the Demotic Spells)* (Chicago, 1986), 144.

⁷⁸ Ruelle, “Note relative,” 120–21; Gardthausen, *Griechische Paläographie II*, 312, and “Geheimschrift,” 519. Cf. Wessely, *Ein System Altgriechischer Tachygraphie*, 9.

⁷⁹ On the *Cesti*, see, e.g., Martin Wallraff et al., eds., *Julius Africanus, Cesti: The Extant Fragments* (Berlin, 2012); Francis C. R. Thee, *Julius Africanus and the Early Christian View of Magic*

(Tübingen, 1984); Martin Wallraff and Laura Mecella, eds., *Die Kestoi des Julius Africanus und ihre Überlieferung* (Berlin, 2009).

⁸⁰ On these musical signs, see Wallraff et al., *Cesti*, 47 n. 21; Thee, *Julius Africanus*, 203–204.

⁸¹ *Cesti* F 12,6. The numbering of the fragments as well as the text and translation follows the recent edition of Wallraff et al., *Cesti*, 56–57; cf. Thee, *Julius Africanus*, 120.

⁸² For more on the pentagons, see Thee, *Julius Africanus*, 199–213; Vieillefond, *Les Cestes*, 42–49; Martin Wallraff, “Magie und Religion in den Kestoi des Julius Africanus,” in *ibid.*; and Mecella, *Die Kestoi*, 43–46; Wallraff et al., *Cesti*, xxx–xxxi.

⁸³ For a description of this manuscript see *ibid.*, liii.

⁸⁴ *Ibid.*, xxxl and n. 114 (with a reproduction of the lozenge); Thee, *Julius Africanus*, 272–73 (and for a reconstruction of the pentagon, see p. 190); Vieillefond, *Les Cestes*, 132–38 n. c.

⁸⁵ Vieillefond, *Les Cestes*, 134–36, n. c. Cf. Thee, *Julius Africanus*, 272–73; Wallraff et al., *Cesti*, xxxl n. 114.

⁸⁶ *Ibid.*

cryptogram reveals the following word: θεοφύλακτον (“protected by god”).

The editors of the recent masterful edition of the *Cesti*, while acknowledging that it was historically possible for Africanus to have known of the AOBH cipher, have argued that the enciphered θεοφύλακτον was probably added by a later copyist, since this adjective is only attested from the 4th–5th century.⁸⁷ This is a strong argument, though it does not conclusively exclude the possibility that Africanus himself might have used (or even coined) this adjective a century earlier. The possibility that Africanus was acquainted with this cipher might gain some support by the fact that he displayed great interest in various mathematical qualities of the letters.⁸⁸

If Africanus was acquainted with the AOBH cipher, it is tempting to speculate that he himself might have directly transmitted the cipher to Bardaisan, to whom the Syriac cipher is attributed, since we have clear proof of their social interaction.⁸⁹ Africanus recalls in the *Cesti* his encounter with Bardaisan the Parthian in the court of the Edessene king Abgar the Great. Yet surprisingly he only describes, rather vividly, how Bardaisan “shot an arrow like a painter” and created with arrows the likeness of a Syrian youth.⁹⁰ It is most likely that two of the most cosmopolitan, multidisciplinary and intellectually curious characters of the period, both of whom had interest in mathematical speculations, discussed other topics besides archery.

However, this speculation should be reined in (though not completely rejected) by some sobering remarks: as we have just mentioned, it is not at all certain that Africanus himself made use of the cipher. Furthermore, it is necessary to recall that we have no proof, besides the later attribution of the Syriac version of the cipher to Bardaisan, that Bardaisan himself employed it. Our earliest evidence of the Syriac cipher

dates to more than three centuries after Bardaisan’s death.

Be all this as it may, the examples from the *Cesti* and the PGM papyrus display the use of the cipher in a magical context. Our earliest evidence of the cipher, however, comes from quite a different context.

During the Hellenistic and Roman periods, various shrines in Egypt, such as the Memnonion in Abydos and the Serapeion in Memphis, were major destinations for pilgrims. These pilgrims would usually commemorate their visits through inscriptions or graffiti in which they documented their names and date of visit. Many of these commemorations consisted of a *proskynema* (worship or adoration) on behalf of the writer and/or other people (relatives or friends) in the presence of the deity.⁹¹ The *proskynema* formula was rather standardized: τὸ προσκύνημα τοῦ PN (“worship by PN”).⁹² Two such *proskynema* graffiti make use of the AOBH cipher.

The following graffito, dated to the 2nd to 4th century CE, was copied by A. Vogliano in the southern temple of Medinat Madi, in the Fayoum region of Egypt:

Ciphertext:

ΨΛΚῚΛΩΠΧΝΒΞΘΨΠΒΩΦΘΨῚΒΑΧΩΠ---
ΠΘQΨΛΧΩΚΘῚΘΧΨΛΧΩ

Plaintext:

τὸ προσκύνημα Τκῆς Φατρήους κ[αί]---
καὶ τοὺς παρ’ αὐτοῦς

Translation:

The worship (*proskynema*) by Tkes son of Phatres, and . . . and those who accompanied them.⁹³

The awkward expression τοὺς παρ’ αὐτοῦς (instead of οἱ παρ’ αὐτῶν), led Étienne Bernard to conclude that the authors of this *proskynema* were indigenous Egyptians who had difficulty expressing themselves in

⁸⁷ Ibid.

⁸⁸ On Africanus’s use of letters, see Appendix 1.

⁸⁹ We wish to thank one of the anonymous readers for stressing this point.

⁹⁰ *Cesti* F 12, 20 (Wallraff et al., *Cesti*, 102–103): “Bardanes was a skilled archer, if ever there was one. I know that the man shot an arrow like a painter. This was how he did it: he once placed a man directly opposite to him, a handsome and robust youth; it would exhaust an artist to create a likeness of him. The youth placed his buckler before himself, for Bardanes prescribed this, displaying his skill to us spectators. Like a skilled painter, he transferred his likeness to the shield that he was holding. [. . .] This incident, then, I still recall with amazement.”

⁹¹ Ian Rutherford, “Island of the Extremity,” in *Pilgrimage and Holy Space in Late Antique Egypt*, ed. D. Frankfurter (Leiden, 1998), 237. The most comprehensive study on the *proskynema* remains that of Giovanni Graeci, “Ricerche sul Proskynema,” *Aegyptus* 51 (1971): 3–211.

⁹² Ian Rutherford, “Pilgrimage: I Classical Antiquity,” *Brill’s New Pauly*, <http://referenceworks.brillonline.com/entries/brill-s-new-pauly/pilgrimage-e925300>, accessed March 27, 2014.

⁹³ Étienne Bernard, *Recueil des inscriptions grecques du Fayoum* III (Cairo, 1981), 105–106, no. 186. As Bernard mentions, Vogliano had copied down the inscription, but later was unable to find it again.

Greek.⁹⁴ However, the use of the cipher points to a rather sophisticated acquaintance with Greek culture.

Finally, our earliest evidence for the use of the cipher is a graffito carved at the foot of the Memnon statue in Egyptian Thebes. This graffito, which should be dated most probably to the 2nd century CE (and perhaps even earlier),⁹⁵ consists of six lines of which only the words in boldface type are enciphered:

τὸ προ]σκύνημα **θηκλοοσνθ** (= Ἀπολλωνα-)
ρηλχψβεξβω (= -ρίου τῆς ἐμῆς)
νπχλρθωζ (= νκυοιασδ = γυναικός)
 ις[τορ]ήσ[ας] ἐμνήσθη
 Λούκι[ο]ς
 ὥρας γ Παμε[νωτ].

Translation: The worship (*proskynema*) **by my wife Apollonarion**, I, Loukios, recorded and commemorated on the third hour of the month Phamenot (February 25–March 26).⁹⁶

Loukios had encoded only the words which regarded his wife, leaving the rest unencoded. Interestingly, Loukios was not content with merely encrypting the word γυναικός (“wife”) in the third line, but decided also to create an anagram (although he seems to have mistakenly written νπχλρθωζ instead of νπχλρθωζ). Commenting on this *proskynema*, Giovanni Graeci has suggested that Loukios, who most probably was a soldier, had encrypted his wife’s name and title in order to hide from strangers his affection for her.⁹⁷ It does indeed seem likely that, despite the general religious context of the *proskynema*, privacy was the main motivation for encoding in both the graffito discussed. The cipher enabled one to render such public commemorations private by not disclosing personal names to the random pilgrim, while at the same time not hampering the *proskynema*’s religious efficacy. It seems probable that such *proskynemata*, in which the ΑΘΒΗ cipher was used to encode personal names in a religious context, were the forerunners of the scribal practice of encoding names and prayers in colophons,

although, as we shall discuss below, the motivation for encoding there was rather different.

The casual and somewhat crude use of the cipher in the two *proskynema* graffiti written by simple pilgrims in Egypt, indicate quite clearly that the cipher was most likely developed well before the 2nd century CE. By the 4th century, this cipher had already been adapted and incorporated into the Coptic scribal tradition.

The Coptic ΑΘΒΗ: Adapting the Greek Cipher

In Codex VIII of Nag Hammadi, dated to the 4th century CE, a cryptogram based on the Greek ΑΘΒΗ was written directly below the subscript title of the first tractate of the Codex, *Zostrianos*. The three-line cryptogram, though written in Coptic script, reveals a Greek text when deciphered.⁹⁸

Ciphertext:

ΟΛΖ ΛΓ ΘΟΒΔΕΓ[Θ]ΦΓCΩΤ
 ΠCΘ ΠΛΧ ΔΕΛΦΘΟΒΔΕΓ
 ΘΩ ΟΛΖΛΓ ΓCΠΛΘΩΤ Π[ΛΧ]

Plaintext:

λόγοι ἀληθεί[α]ς Ζωστ-
 ριανοῦ θεὸς ἀληθεί-
 ας λόγοι Ζωροάστρ[ου]

Translation: Words of truth of Zostrianos, the god of truth, words of Zoroaster.

This is the earliest known attestation of this cipher in Coptic. However, it is not clear whether this cryptogram stems from the Greek stage of the tractate, or whether it was coded by the Coptic translator or a later scribe.¹⁰⁰ The supralinear lines follow the word division rather accurately, which would indicate that the scribe of the codex was able to decipher the cryptogram. It is interesting to note that here and elsewhere

⁹⁴ Ibid., 106

⁹⁵ For this dating, see André Bernard and Étienne Bernard, eds., *Les inscriptions grecques et latines du Colosse de Memnon* (Cairo, 1960), 29–31, who argue that all the inscriptions on the Colossus should be dated between the reigns of Tiberius and Septimius Severus.

⁹⁶ Ibid., 205–208, n° 102 and plate LVII. Cf. Graeci, “Proskynema,” 7; Luz, *Technopaighnia*, 131; Menci, *Crittografia greca*, 559.

⁹⁷ Graeci, “Proskynema,” 74.

⁹⁸ For text and translation, see John H. Sieber, ed., *Nag Hammadi Codex VIII* (Leiden, 1991), 224–25; Frederik Wisse, “Language Mysticism in Nag Hammadi Texts and in early Coptic Monasticism I: Cryptography,” *Enchoria* 9 (1979): 105; Jean Doresse, “Cryptography,” *The Coptic Encyclopedia*, vol. 8, ed. A. S. Atiya (New York, 1991), 66. For the facsimile, see *The Facsimile Edition of the Nag Hammadi Codices: Codex VIII*, ed. James M. Robinson (Leiden, 1976), 138.

⁹⁹ The *Psi* here and elsewhere has been stylized to look like a cross or a Coptic *Ti* (†). Cf. Wisse, “Language Mysticism,” 105.

¹⁰⁰ Ibid.

in the Coptic scribal tradition, the *Qoppa* (Q) is written like the Coptic *Fai* (ϣ).

The Coptic script was developed from the Greek by Coptic monks. The earliest Coptic calligraphist on record is the influential ascetic Hieracas of Leontopolis, who was active during the first half of the 4th century CE.¹⁰¹ Hieracas was a learned scribe who, as Epiphanius described him, “was proficient in the Greek and other literary studies, and well acquainted with medicine and other subjects of Greek and Egyptian learning. And perhaps he was dabbled in astrology and magic”¹⁰²—and that “he wrote both in Greek and in Coptic.”¹⁰³ On this basis, Frederik Wisse had suggested that bilingual scribes, most probably of Hieracas’ circle, were the ones who had transferred this cipher from the Greek to the Coptic scribal tradition some time at the beginning of the 4th century.¹⁰⁴

Once this cipher became part of the Coptic scribal tradition, it was used by scribe-monks, mainly in colophons and monastery cell graffiti, for well over a millennium. The most comprehensive survey of the various attestations of this cipher was made by Frederik Wisse in his 1979 article on Coptic cryptography, in which he transcribed, translated, and analyzed over twenty ciphertexts, eight of which were based on the AOBH cipher.¹⁰⁵ A couple of more examples were later supplemented by Jean Doresse in his article on cryptography in the Coptic Encyclopedia.¹⁰⁶ To these one

should add another two examples, noted recently by Giovanna Menci.¹⁰⁷ As we shall see, the Coptic scribal tradition may shed further light on the use of this cipher in late antiquity and the Middle Ages.

Since the cipher was most suitable for texts written in Greek, in many cases scribes otherwise writing in Coptic encrypted Greek formulae using the Coptic alphabet.¹⁰⁸ So, for example, in the monastery of Epiphanius at Thebes, on a scribbled inscription on wood found in the cell of “Priest Elias,” there appears, below several alphabetic verses, the entire encoded scheme of the Greek alphabet with none of the demotic letters:

ΘΗΖΣΕΓΒΔϣΠΟΞΙΝΜΙΑΚΡΩΨΧΦΥΤC¹⁰⁹

Similarly, in a graffito from cell B of the monastery of Epiphanius from the 6th century or later, we find a good example of a cryptogram, which when deciphered reveals a rather poorly spelled Greek prayer:

Ciphertext

†ΠΕΚΘϣΧ2ΧΝΘΞϣω
†CΠΘΖϣΛΗΕΧΥΛΗ
†CΙΞΕΖΘΛΛΗΕΧΜΘω
ΔΘϣΚΕΡϣ†ΘωΘΞΘΡ†ϣΘ
ΞΛΧΕΓCΞ[B]ΠΘωCΛΞΘΡ
†ΛΟω†ϣΘ×C†ΘC†ΘΚΕ†ΠΔΖ

Plaintext

ΚΕ καὶ δύναμις
τῶν ἁγίων εὐχὸν
τῶν μεγάλων εὐξασ-
θαι περὶ τὰς ἁμαρτίαις
μου ἐγὼ Μ[η]νὰς ὁ <ᾱ>μαρ-
τολ<ό>ς C†Θ· C†Θ C†Θ ΚΕ ἰνδ Ζ¹¹⁰

¹⁰¹ For more on Hieracas, see Antoine Guillaumont, “Hieracas of Leontopolis,” *The Coptic Encyclopedia*, vol. 4, ed. A. S. Atiya (New York, 1991), 1228–29; James E. Goehring, *Ascetics, Society, and the Desert: Studies in Early Egyptian Monasticism* (Harrisburg, PA, 1999) 110–36.

¹⁰² Epiphanius, *Panarion* 67, 1, 1, translation: Frank Williams, *The Panarion of Epiphanius of Salamis: Books II and III De Fide* (Leiden, 1994), 308.

¹⁰³ *Panarion* 67, 3, 6 (Williams, *Panarion*, 311); cf. Wisse, “Language Mysticism,” 117.

¹⁰⁴ On the possible connection between Hieracian monks and the Nag Hammadi codices, see Frederik Wisse, “Gnosticism and Early Monasticism in Egypt,” in *Gnosis: Festschrift für Hans Jonas*, ed. Barbara Aland et al. (Göttingen, 1978), 438–40. Wisse had suggested that one of the books discovered at Nag Hammadi (i.e., *Testimonium veritatis*) may have been authored by Hieracas or one of his disciples, thus linking the Nag Hammadi texts to Monasticism. For a critique of this approach, see Antoine Guillaumont, “Hiéracas de Léontopolis et les textes de Nag Hammadi,” *Annuaire du Collège de France* (1980–81): 411–13.

¹⁰⁵ Wisse, “Language Mysticism,” 101–20.

¹⁰⁶ Doresse, “Cryptography,” 65–69; see also his “Cryptographie copte et cryptographie grecque,” *Bulletin de l’Institut d’Égypte* 33 (1950–51): 215–28.

¹⁰⁷ Menci, *Crittografia greca*, 561. See Paola Buzi, “Lo scavo di una necropoli di età tardo-antica a Karanis (Kom Aushim): alcune annotazioni,” *Ricerche di Egittologia e di Antichità Copte* 6 (2004): 97–106; Francesco Rossi, “Di un coccio copto del Museo Egizi di Torino con caratteri crittografici,” *AAT* 31 (1895–96): 914–19. As Menci notes, the latter was briefly mentioned by Doresse, “Cryptographie copte,” 220 n. 3, but was not mentioned later either by Doresse, in “Cryptography,” or by Wisse, in “Language Mysticism.”

¹⁰⁸ Ibid., 117; Doresse, “Cryptography,” 66.

¹⁰⁹ Concerning the Ξ and Μ, Wisse notes (“Language Mysticism,” 110): “The iota after Ξ and the Μ forms most likely a phonetic unit with these letters.”

¹¹⁰ Text and translation according to Wisse, “Language Mysticism,” 106. Cf. Doresse, “Cryptography,” 66. For the facsimile, see Walter E. Crum and Hugh G. Evelyn-White, *The Monastery*

Translation: Lord¹¹¹ and Power of the holy prayers of the great ones, pray for my sins. I am Menas the sinner. Amen,¹¹² Amen, Amen, Lord! VII Indiction.¹¹³

An important paleographic point is that within two lines the scribe used three(!) different forms of the *Sampi*, indicating that “the use of this number was too infrequent to arrive at a consistent form.”¹¹⁴ This fact further highlights the difficulties of adapting the cipher to Coptic calligraphy, even when the encoded text was in Greek.¹¹⁵

In addition to using the cipher for Greek formulas, it was also adapted in various ways in order to encode Coptic texts. However, there were a few problems facing the scribes who wished to adapt the cipher. The most obvious one was that the Coptic alphabet included not only the twenty-four Greek letters but also (at least) six demotic letters: *Shai* (ϣ), *Fai* (ϣ), *Hori* (ϣ), *Janja* (ϣ), *Cheema* (ϣ), and *Ti* (ϣ). A further complication was due to the fact that the decimal properties of the Greek code were ill-adjusted to the Coptic alphabet, since the demotic letters had no numerical value in the Coptic tradition (except for the *Fai* which was identified with the *Qoppa*, and hence assigned the numeric value of 90). This posed a challenge for those wishing to adapt the cipher; consequently, different scribes came up with different and inconsistent solutions.¹¹⁶

of Epiphanius at Thebes, Part II: Coptic Ostraca and Papyri; Greek Ostraca and Papyri (New York, 1926; repr. 1973), 386, no. 701.

¹¹¹ $\overline{\kappa\epsilon}$ is an abbreviation of the vocative κύπε.

¹¹² The siglum $\overline{\Theta}$ (*Qoppa* [90] + *Theta* [9] = 99) is the current Byzantine abbreviation for “Amen” based on the numerical value of the letters of the word ($\Delta + \text{M} + \text{H} + \text{N} = 1 + 40 + 8 + 50 = 99$).

¹¹³ A few notes on the text (following Wisse, “Language Mysticism,” 106): In line 1, “the κ is left uncoded. The function of \times between Θ and ϱ is unclear.” In line 3, “it appears that the first H was ‘coded’ by means of a small vertical stroke.” In line 5, the Γ is left uncoded and “it seems that the sigma of $\mu\eta\nu\acute{\alpha}\varsigma$ was written both in coded and uncoded form.”

¹¹⁴ Ibid.

¹¹⁵ Another example for the use of Greek could be found in a colophon dated to 871–72 CE written in the Fayyum, where the following cryptogram appears: $\kappa\Theta\kappa\omega\psi\prime\text{COC}\omega\varrho\ \overline{\Theta}\Theta\text{PCIII}$ (= $\text{Παπ}\omega\sigma\tau\omega\lambda\omega\varsigma\ \delta\acute{\alpha}\kappa\omega\nu$), meaning “Papostolos, the deacon.” See *ibid.*, 107–109, with further examples.

¹¹⁶ Wisse (*ibid.*, 118) distinguishes six different approaches to dealing with the demotic letters. However, some of these approaches should actually be considered adaptations of other substitution ciphers; see Doriesse, “Cryptography,” 67–68. It is obviously

The simplest method of adaptation, though not necessarily the oldest, was to leave the demotic letters un-coded, although at times slightly modified.¹¹⁷ So in a colophon dated to the 13th of September, 1027 CE (MS BM Or 7024), after the request from the reader to pray for him, the scribe wrote his name in an uncoded form followed by a coded form:

Ciphertext:

$\Theta\text{III}\Lambda\text{Π}\Theta\kappa\Theta\text{P}\overline{\Xi}\text{P}\equiv\kappa\psi\overline{\Xi}\text{P}\equiv\text{MKM}\Theta\text{Π}\Theta\text{P}\overline{\Xi}\Lambda\omega$

Plaintext:

$\Delta\text{NOK}\ \Delta\text{Π}\Delta\ \kappa\text{IP}\Theta\ \text{Π}\psi\text{IP}\Theta\ \text{MΠM}\Delta\kappa\Delta\text{PIOC}$

Translation:

I am Apa Cyre, the son of the blessed (Theodore)¹¹⁸

In this cryptogram, the demotic letter *Shai* (ϣ) is simply left uncoded.¹¹⁹ Another interesting feature which appears here and in other Coptic cryptograms from at least the 9th century onwards is the use of the cryptic symbols \equiv and III , fabricated in order to slightly conceal the otherwise un-coded letters Θ and H , respectively.¹²⁰

A similar adaptation, in which the demotic letters were left un-coded, can be found in a magical spell for binding a dog, preserved in a fragmentary papyrus in the British Museum (Or. 1013-A) dated to the 8th century CE.¹²¹ Such dog protection spells were usually “not so much for the simple passerby as for lovers or thieves who would fear the dogs’ barking at night.”¹²² The encoded magical formula below appears four times throughout the recipe:

impossible to know how the cipher was adapted in such cases in which a text contains no demotic letters.

¹¹⁷ Ibid., 118. In addition to the two examples cited below, see also Doriesse, “Cryptography,” 66, example 5.

¹¹⁸ Wisse, “Language Mysticism,” 111. This colophon was first published by van Lantschoot, *Recueil des colophons*, 193, n° CXI a. 2 (G).

¹¹⁹ *Ksi* (ϣ) in this cryptogram does not substitute the *Me* (M), as in all other cryptograms, but rather the *Iota* (I). The *Me* (M) itself is left uncoded. This seems to suggest that the scribe has altered the cipher, whether on purpose or by mistake (cf. Wisse, “Language Mysticism,” 111).

¹²⁰ Doriesse, “Cryptography,” 65.

¹²¹ First published by Adolf Erman, “Zauberspruch für einen Hund,” *Zeitschrift für ägyptische Sprache und Altertumskunde* 33 (1895): 132–35.

¹²² Doriesse, “Cryptography,” 66. Doriesse further argues that the formula itself is probably among the most archaic of Coptic formulas, since it is attributed to Isis at the beginning of the fragment (for the attribution see Erman, “Zauberspruch,” 132).

Δ	Β	Γ	Δ	Ε	Ζ	Η	Θ	Ι	Κ	Λ	Μ	Ν	Ξ	Ο	Π	Ρ	Σ	Τ	Υ	Φ	Χ	Ψ	Ω
Θ	Η	Ζ	Σ	Ξ	Γ	Β	Δ	Κ	Π	Ο	Ξ	Υ	Μ	Λ	Κ	Σ	Ω	Υ	Χ	Ψ	Υ	Τ	Σ

Ψ	Κ	Σ	Υ	Σ
Φ	Ι	Δ	Ν	Ρ

Figure 10—Coptic AΘBH based on a graffito from Saqqara.

Ciphertext

[≡ϣ]ζλχρζκλχθρπππϣβπ≡πϣ≡ωζϣζ≡
 ≡ϣ≡ϣ≡ϣζθ[θχϣ≡]

Plaintext

[ει]μοϣρ μποϣαρ ννιμ πψηρε ντεσζιμε
 ετε τεϣμα[δϣ τε]

Translation:

I bind the dog of NN, the son of the woman NN,
 who is his mother!¹²³

Here we can see that the demotic letters *Shai* (ϣ), *Hori* (Σ) and *Fai* (Κ) were left uncoded, although the *Fai* was also used once instead of *Qoppa* for encoding the *Iota*.

Yet another variant adaptation is found in a Coptic medical papyrus dated to the 9th–10th centuries, when a certain number of medical ingredients were encoded. For example: ΥΘΟΠΛΩ for ΧΑΡΚΟC (or ΧΑΛΚΟC), “bronze”; ζθθω≡ for μαδσε, “calf”; ζΔCΡ for ΜΧΩΡ (or ΜΧΩΛ), “onion.”¹²⁴ In the last word, the demotic ϣ was coded by a Δ, most probably due to its resemblance and the fact that the *Stigma* was not used. It is important to note that the last two examples are the only known surviving examples in Coptic literature in which the cipher was used in a magical or medical context, though we have seen similar examples above in the Greek tradition.

A curious example of identifying a demotic letter with a Greek one can be found in a manuscript dated to 855 CE, in which the scribe regarded the demotic letter *Shai* (ϣ) as an *Omega* (ω) with a “tail” and hence substituted it with a *Sigma* with a “tail” (ς).¹²⁵

¹²³ Text and translation are based on Wisse, “Language Mysticism,” 111–12, and Dorese, “Cryptography,” 66.

¹²⁴ Émile Chassinat, *Un Papyrus médical copte* (Cairo, 1921), 9; cf. Dorese, “Cryptography,” 66.

¹²⁵ Wisse, “Language Mysticism,” 114; van Lantschoot, *Recueil des colophons*, 17, no. VIII D:

Cryptogram: ≡ΠC ΠΧΡCΠCΠC ϣCθΠΛΧ:ζθCθ ΠΧΡC ΚCϣCΡC:
 Greek/Coptic text: ΕΚΩΚΥΡΙΛΛΟΥ ΔΙΑΚΟΥ ΖΑΠΑΚΥΡΙ ΕΒΩΗΡΕ
 Translation: “I am Cyril, the deacon, and Apa Cyre, his son.”

The most comprehensive incorporation of the demotic letters could be found in a graffito written in black ink inside a door of room 775 of the monastery of Jeremias at Saqqara, where the demotic letters have been integrated into the cipher:¹²⁶

Ciphertext

Δζκ6θχζκχλχϣ≡
 χφC6KθχλπΗϣΠ
 ϣC6Kϣ≡OθΥϣωϣOω
 χΔΒΠ≡O6Kθζ≡
 λχ≡ΔθζΒχ

Plaintext

ζN ΠΡΔN ΜΠΝΟΥΤΕ
 ΝΨΩΡΠ ΔΝΟΚ ΒΙΚ-
 ΤΩΡ ΠΙΕΛΑΧΙCΤΟC
 ΝΖΗΚΕ ΔΡΙΠΔΜΕ-
 ΟΥΕ ΖΔΜΗN

Translation:

In the name of God foremost. I am Victor, the insignificant poor one. Remember me. Amen.

This adaptation fits the demotic letters into the slots of the letters not used in Coptic (*Stigma*, *Qoppa* and *Sampi*) and of the *Nu* and *Phi* which were left uncoded in the original cipher and hence could be used as substitutes. The full scheme of this version of the Coptic cipher would thus be as it appears in Figure 10. Consequently, such an adaptation severely compromises the cipher’s original decimal properties.

To sum up: at beginning of the 4th century CE, the Greek cipher was transferred to Coptic calligraphy by bilingual scribes. At first, the Coptic cipher seems to have been used mainly to encode Greek texts. However,

Since the *Sampi* was seldom used, the *Rho* was left uncoded. The symbol 3 in line 2 is an abbreviation of καί (Gardthausen, *Griechische Paläographie* II, 327). In another colophon, the *Shai* replaces the *Sampi* in the scheme—substituting the *Rho* and vice versa; see Wisse, “Language Mysticism,” 115 n. 45.

¹²⁶ Ibid. First published in James E. Quibell, *Excavations at Saqqara (1907–1908)* (Cairo, 1909), 67, no. 141.

later on scribes developed different adaptations of the Greek cipher to the Coptic alphabet in order to encode Coptic texts. The cipher was used by Coptic scribes for over a millennium mainly in colophons or graffiti, the content of which is almost identical to those found in the Byzantine and Syriac manuscripts. At times, though, the cipher was also used to encode the titles of esoteric texts, magical formulae, or medical treatises.

The Coptic scribal tradition illustrates quite clearly the process by which ciphers were transferred from one alphabetic system to another, and the difficulties facing the scribes who wished to adapt them. This precedent can now help us reconstruct the process by which the Greek cipher ended up in the Babylonian Talmud.

Conclusions: From Encoding to Decoding

I am Jacob, the insignificant one. When I recognized my folly, I wanted to constrain myself by turning to the brethren. But while [dwelling] with them I concealed names as [with] a veil. I told the [brethren . . .] to me: "It is not a good thing [. . .] wrote them hastingly." Very well, but God knows that I do not know the key to the words which I wrote. I wrote them at that time in faith.

*Fragmentary graffito from a tomb used by Coptic monks in the valley of Kings near Thebes.*¹²⁷

Victor Gardthausen, considering the AΘBH cipher in its Greek scribal context, declared: "Es ist also ein recht künstliches System, das nur einmal erfunden und dann von Meister dem Schüler anvertraut ist, und daher auf eine ununterbrochene Schultradition der byzantinischen Schreiber schliessen last."¹²⁸

That is, the cipher is so artificial that it could only have been invented once and then continuously transmitted over the centuries from master to student. Gardthausen was apparently unaware of the Coptic, Syriac, and Hebrew versions of this cipher. Nonetheless, his statement is still basically valid. First, this is indeed an artificial, sophisticated, and elite cipher used almost exclusively by scribes and hence should

be clearly differentiated from other more intuitive substitution ciphers or letter permutations such as those used as school exercises for learning the alphabet, documented in many Cairo Geniza fragments and papyri.¹²⁹ Second, the earlier documentation of the Greek cipher and especially the fact that the decimal principle is best suited to a 27-letter alphabet (3 × 9) both lead to the conclusion that the cipher was originally developed within a Greek milieu, most likely before the 2nd century CE. However, although the cipher was only invented once, it was, as we have seen, adapted quite a few times.

Sometime around the 5th–6th century there appears a 22-letter substitute cipher, with elaborate decimal properties, both in a gloss in the Babylonian Talmud and in colophons of Syriac manuscripts. The ciphers, known as the AṬBH of rabbi Hiyya and the Alphabet of Bardaisan, are identical and reflect the same adaptations of the Greek original. Thus, in contrast to the Greek cipher in which the *Epsilon* and the *Nu* remained un-substituted, in the Syriac and Hebrew cipher, the letters *He* and *Nun* substitute each other, thus defying the decimal principle. Moreover, the combination of the final four letters with their substitutions (ש+ר; ת+ק) yield only 500, and not 1,000 as in the Greek cipher. In light of the various and contradictory adaptations of the cipher used in the Coptic scribal tradition, analyzed above, the fact that the same adaptation appears in both the Talmud and in Syriac sources makes it highly unlikely that this cipher was adapted from the Greek independently by both the Syriacs and the Rabbis. Yet if it did not develop independently, where was this adaptation originally conceived?

To the best of our knowledge, Rubens Duval, in a brief note in his 1881 *Traité de grammaire syriaque*,

¹²⁹ For such school exercises in the Cairo Geniza, see Judith Olzowy-Schlanger, "Learning to Read and Write in Medieval Egypt: Children's Exercise Books from The Cairo Geniza," *Journal of Semitic Studies* 48 (2003): 59–63. The exercises included using letter permutations such as אבבא; ע; אבבא; ר; אבבא; ש. For similar exercises in the papyri, see, e.g., Raffaella Cribiore, *Writing, Teachers, and Students in Graeco-Roman Egypt* (Atlanta, GA, 1996) 38–39; Luz, *Technopaegnia*, 131–32. Luz, though, wishes also to link the AΘBH cipher to the school exercises. We wish to thank Gideon Bohak for these references. As Aaron Densky has noted ("A Proto-Canaanite Abecedary Dating from the Period of the Judges and its Implications for the History of the Alphabet," *Tel Aviv* 4 [1977], 20–21), school exercises based on AṬBH and ALBM appear already in a proto-Canaanite abecedary from 'Izbet Šarṭah dated to the 12th century BCE and such exercises "were probably as old as the order and letter names themselves and were employed in dissemination throughout the ancient world."

¹²⁷ Translation according to Wisse, "Language Mysticism," 118–19. For the Coptic transcription, see Herbert E. Winlock and Walter E. Crum, *The Monastery of Epiphanius at Thebes, Part I: Archaeological and Literary Material* (New York, 1926; repr. 1973), 19.

¹²⁸ Gardthausen, *Griechische Paläographie II*, 311.

is the only scholar to have pointed out the affinity between the אַבְחִי and the alphabet of Bardaisan, though unaware of the Coptic and Greek versions.¹³⁰ Duval, however, had no direct acquaintance with the Jewish texts and gleaned his information from Johannes Buxtorf's 17th century dictionaries,¹³¹ where Buxtorf defines the אַבְחִי as a *vox fictitia cabalistica* and accepts the traditional opinion, introduced by R. Nathan of Rome and attributed to Rashi, according to which the אַבְחִי includes the final letters. Following Buxtorf, Duval regarded the אַבְחִי as the creation of "les cabalistes juives" who, in his opinion, influenced the Syriac writers. According to Duval, in the last four letters (תשר"ק), the Syriac scribes broke the original and perfect Jewish pattern which was based on the decimal principle of 10, 100, and 1,000 (including the final letters). The primacy of the rabbinic usage of this fictitious alphabet is further proven, according to Duval, by the sophisticated manipulations of the cipher by the rabbis in comparison to the more mundane usage by the scribes writing in Syriac.

The fact that the rabbinic cipher did not actually include the final letters, and hence is indeed identical to the Alphabet of Bardaisan, in itself undermines Duval's reconstruction. More importantly, though, this alleged sophistication of the rabbis is, in our opinion, rather proof of their *secondary* use of the cipher.

In light of the all-but-identical use of the cipher in colophons in the Greek, Coptic, and Syriac scribal traditions, it seems most likely that no later than the 5th century CE the Greek cipher was adapted from a 27- to a 22-letter alphabetic system by bilingual scribes, fluent in both Syriac and Greek, much along the lines of the Coptic adaptation of the cipher in the 4th century. Once adapted, this cipher (later known as the alphabet of Bardaisan) is attested numerous times in Syriac manuscripts, and functioned as a stable scribal practice for over 1,300 years.

In classical rabbinic literature, on the other hand, the cipher appears only once, and under rather complicated circumstances. A homily conceived in Palestine on a verse from Proverbs probably understood the obscure word *manon*, a biblical *hapax*, as a Greek word. When transmitted in Babylonia, the etymology of this particular understanding of *manon* was lost. Faced with an exegetical crux, an anonymous redactor had to resort to a cipher, which is otherwise unprec-

edented in the extant rabbinical literature, in order to explain *manon* as "witness." It seems likely that under such circumstances, the redactor borrowed this cipher from a neighboring scholastic cultural context either directly or through the intermediacy of the shadowy (scribe?) R. Hiyya b. R. Hanina, to whom the cipher was attributed.¹³² Although scholars have examined the many parallels (and differences) between the scholastic milieus of the rabbinic Babylonian academies and that of the East Syrian schools in the 5th and 6th centuries,¹³³ little attention has been given to technical aspects such as scribal traditions. The example studied here, which presents the borrowing of a Syriac scribal practice by Babylonian Jewish sages, may further our understanding of the scholarly interactions between these two communities in late antique Babylonia.

There is, however, yet another twist in the evolution of the אַבְחִי in the Jewish tradition. As noted above, in the 11th century R. Nathan of Rome interpreted the rabbinic cipher according to an alphabet of 27 letters, which included the five final letters. Why would he do that if it caused severe problems with the one known example in rabbinic literature? It seems likely that R. Nathan, who was acquainted with the Byzantine world, knew first-hand of the cipher used at the time by Byzantine scribes. Interpreting the אַבְחִי of R. Hiyya in light of the Greek ΑΒΗΘ, he constructed a 27 letter cipher. However, he had to adjust this scheme to *manon*, the only word to be deciphered in rabbinic literature, and which, alas, contained a *Nun* and a final *Nun*, both of which encoded the letter *He*. Hence, instead of preserving the perfect decimal properties of the cipher by leaving the *He*, *Nun*, and final *Kaf* unenciphered (as the *Epsilon*, *Nu* and *Phi* in the Greek cipher), R. Nathan was forced to couple the *Nun* with the *He* and treat the final *Nun* in *manon* (מנן) as a regular *Nun* (מנ). Consequently, the cipher used in most later Jewish texts is a rather

¹³² If the attribution of the cipher to R. Hiyya b. R. Hannina is not fictitious, one can hypothesize that this otherwise unknown sage (or scribe) lived sometime in the 5th century, and that it was he who first introduced the Syriac cipher to the rabbinical world.

¹³³ See especially Adam Becker's important methodological discussion in "The Comparative Study of Scholasticism in Late Antique Mesopotamia: Rabbis and East Syrians," *AJS Review* 34 (2010): 91–113, with literature; and Isaiah M. Gafni, "Nestorian Literature as a Source for the History of the Babylonian Yeshivot," *Tarbiz* 51 (1982), 573–74 [Hebrew] on the possible impact of Syriac grammatical concepts on *Sefer Yetsira*, see now also Tzahi Weiss, "Soft and Hard: More Comments on the Syrian Context of *Sefer Yetsira*," *Kabbalah* 26 (2012), 229–42 [Hebrew].

¹³⁰ Duval, *Traité de grammaire syriaque*, 12–13.

¹³¹ Johannes Buxtorf, *Lexicon Hebraicum et Chaldaicum* (London, 1646), 64, and *De Abbreviaturis*, 28–30.

awkward hybrid created by superimposing an 11th century direct adaptation of the 27-letter Greek cipher onto the rabbinic 22-letter cipher from the 5th century, which in turn was based on a Syriac adaptation of the same Greek cipher.

In its earliest attestations, from the second to fourth centuries CE, the cipher was used for encoding, in various contexts, *proskynema* graffiti, magical and esoteric texts, and even a shopping list. However, the cipher later developed into a rather rigid scribal practice employed, with very few exceptions, in colophons and graffiti for encoding the names of monks and scribes, and prayers in a rather conservative fashion.

Apparently the Syriac, Greek, and Coptic scribes' main purpose in using the cipher was to profess their belonging to a certain scribal tradition and milieu, and not necessarily to hide esoteric knowledge: as Wisse puts it, "knowing the code is to belong to the elite."¹³⁴ This is nicely illustrated in the graffito cited at the head of this concluding section, in which a monk, trying to imitate his brethren and become part of their circle, admits he did not know the cipher, but merely copied various encrypted names, trusting in God and writing in faith.¹³⁵ None of these scribes ever projected their scribal practice on the biblical authors—they simply used it and kept on using it in an almost identical and unaltered fashion for over a thousand years. Only when detached from its scribal context by Jewish commentators could this cipher cease to be used for encoding and evolve into an independent exegetical tool for decoding the Bible.

¹³⁴ Wisse, "Language Mysticism," 120. Wisse argues (pp. 118–20) that the cipher had mystical and esoteric purposes, and was somehow regarded as a divine writing, pointing to the fact that many of the inscriptions include prayers. We, however, believe that this cipher, as a scribal practice, had more of a sociological than a mystical function. Most (though not all) of the examples analyzed in all three scribal traditions seem to support Doresse's ("Cryptography," 68) comment: "all of this was at once naïve in its process and impoverished in its content." Hence, these cryptograms do not seem to convey many mystical overtones. On the scholarly overemphasis on mystical and magical interpretations of letter speculations in late antiquity, see now Weiss, *Letters by which Heaven and Earth were Created*.

¹³⁵ For a different, and more mystical, reading of this graffito, see Wisse, "Language Mysticism," 119.

Appendix: On the use of letters by Julius Africanus

The great 11th century Byzantine scholar, Michael Psellus, who was a close reader of the *Cesti*, attacked Africanus's use of letters:

On the other hand, Africanus, the expositor of the unutterable forces in nature, commits to writing some sort of mathematical prattle about the number of these letters—and this in a very few words. He extols the number six and the number four, and after multiplying them together, prides himself on having discovered something great, which has escaped the discovery and comprehension of everyone. Then, after adding together the source from which each of these letters is composed, (he claims) that he has discovered the whole coextensive with the first myriad (εἴτα συνθεῖς ὅθεν ἕκαστον τούτων αὐτῶν στοιχείων συντίθεται ὅτι εἰς τὴν πρώτην μυριάδα τὸ πᾶν ἐφεῦρε συμπεραίνόμενον).¹³⁶

It would seem that Psellus's description of Africanus's "mathematical prattle" is somewhat garbled or deliberately misrepresented. However, it has been noted that Psellus's "polemical and sarcastic attitude distorts, but he does not falsify."¹³⁷ Is it then possible to discern the mathematical procedure which leads to the "first myriad"? The recent editors of the *Cesti* have commented on this testimonia as follows:

The mathematical procedure by which Africanus arrived at 10,000 (the "first myriad") is unclear. It may consist of adding together the numeric value of the letters that comprise each of the letters of the alphabet. Thus, ἄλφα = 1 + 20 + 500 + 1 = 532; βῆτα = 2 + 8 + 300 + 1 = 310 (*sic*) etc. The sum arrived at by adding these numbers together is somewhat larger than a myriad.¹³⁸

The sum arrived by this procedure is 10,302.

We wish to offer another explanation. It is possible that Africanus was referring to the entire AṬBH scheme. As mentioned above, this scheme consists of three groups of nine pairs; each pair combined yields the numerical value of 10 in the first group, 100 in the second and 1,000 in the third. Adding up the twenty-seven pairs, one reaches 9,990 (9 × 10 + 9 × 100 + 9 × 1,000). This, we suggest, might be the meaning of "the first myriad."

¹³⁶ Text and translation: Wallraff et al., *Cesti*, 24–25.

¹³⁷ Ibid., lxxix.

¹³⁸ Ibid., 25, n. 44.