Jewish Traditions on Strengthening Memory and 
Leone Modena’s Evaluation

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Introduction

Memorization and its strengthening by such diverse means as drugs, mnemonics, and memory-training, received much attention in ancient and medieval literature, that is, before the invention of the printing press made books widely available. It was a central theme for the adherents of Judaism and Islam because of their oral traditions. Only by memorizing and retelling their religious traditions could Jews and Muslims ensure the survival of their religions. The importance of memorization is stressed time and again in the Hebrew Bible. The verb zakhar appears in its various declensions in the Bible no less than one hundred and sixty-nine times, usually with either Israel or God as the subject, for memory is incumbent on both. As Israel is enjoined to remember, so it is adjudged not to forget.

The Shulhan ‘Arukh, the most authoritative code for the pious Jew declares: “If someone forgets one thing of what he learned because he did not repeat it, Scripture states that he is as it were guilty of a capital crime.” In the light of this statement it will be clear how acute the problem of forgetfulness was and still is for every pious Jew. It becomes even more acute when one considers the fact that forgetfulness not only had a legal, but also a social impact. For a learned man, a Talmid Hakham had a very respected social position in Jewish society throughout the ages, a position threatened by forgetfulness as the following warning shows: “And be careful [to respect] an old man who has forgotten his knowledge through no fault of his own, for it was said: “Both the whole tables and the fragments of the tables were placed in the Ark.”

2 Shulhan Arukh, Hilkhot Talmud Torah, Pirkei 2, Halakhah 4.
3 Talmud Bavli, Berakhot 8b; all the translations quoted from the Talmud Bavli are by I. Epstein.

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But also Christianity, since it was firmly rooted in history, and since, as Le Goff remarks, “divine acts of salvation situated in the past form the content of faith and the object of rites,” accorded primary importance to memory, manifesting itself in the commemorative liturgy. Throughout the Middle Ages much value was accordingly placed on memory training in the educational system, to know was to know by heart. This was, as Carruthers remarks, not so much the consequence of a paucity of books, since these became more readily available, but of the “identification of memory with the formation of moral virtues.” The importance attached to memory was reflected in theoretical literature on the subject as well. From the end of the twelfth century theories of memory developed in rhetoric and theology. From the thirteenth century on the classical mnemonic of images and places enjoyed a revival and achieved a dominating position in the Renaissance.

In Hebrew literature we find an example of an “art of memory” stressing the primacy of the classical mnemonic of images and places, in a monograph entitled “Lev ‘Aryeh”, and composed by Leone Modena (1571–1648). This monograph, unique in Hebrew literature, is thus an adaptation of a humanist concept to a Hebrew model; it is a Hebrew counterpart to the memory treatises composed in the Renaissance.

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8 Modena’s memory treatise has not been thoroughly researched until now. A study undertaken by David Margalith (“Al ha-Zikkaron,” *Korot* 5, 11–12 [1972]: 759–772), is rather disappointing insofar as it only gives a survey of its contents, but no analysis of the underlying concepts and theories; nor does Margalith place the work in its proper cultural environment. Giuseppe Sermonetta (“Aspetti del pensiero moderno nell’ebraismo italiano tra rinascimento e età barocca,” *Italia Judaica* 2 [1984]: 17–35) deals in this important article with Latin and Italian sources on the art of memory, with the proper cultural, humanist environment, and the classical memory technique recommended by Modena. Howard Adelman and Benjamin Ravid give a summary account in “The
Jewish literature describes a wide variety of means for strengthening memory which can basically be classified according to the following main categories: 1. magic, employing different incantations, amulets, talismans, and the like; 2. medicine, involving the use of drugs and/or unguents; 3. mnemotechnics, such as abbreviation, repetition, melodious recitation, and the classical mnemonic, consisting of *images* and *places* mentioned above. In this paper I will present a survey of Jewish traditions on these different techniques to strengthen memory. I will, moreover, discuss Modena’s critical evaluation of these techniques as presented in his *Lev 'Aryeh*, and conclude with a summary account of Modena’s description and application of the classical mnemonic.

I. Magic

Magic to strengthen memory, or to use a common medieval term “to open the heart” (*li-fetiḥat ha-le*), features in a wide variety of incantations, amulets, talismans, and the like.\(^9\)

**Incantations**

The *Hekhalot* literature contains a description of an incantation conjuring the *Sar ha-Torah* (Angel of the Torah), an incantation which enables the adept to study the Torah and to retain it perfectly.\(^10\) It also states that when Moses had ascended to God he received certain magical names. By invoking them one would never forget one’s learning of *Miqra, Mishnah, Talmud, Aaggadot* and *Halakhot*.\(^11\) The *Seder* (prayerbook) of R. ‘Amram Gaon (9th cent.) mentions an incantation, conjuring *Putaḥ*, Angel of Forgetfulness.\(^12\) This incantation was widely disseminated by medieval legal works, such as the *Me’ah She’arim* of Isaac Ibn Ghayyat (1038–1089) and the *Tur* of Jacob Ben Asher (1270–1340), and was then...
adopted by the Lurianic Kabbalah in Safed (16 cent.) and also by many other prayerbooks. Isaac Luria (the Ari) himself, however, was opposed to this magical technique, and rebuked his student Hayyim Vital (1548–1610) for those two and a half years that he was involved in magic and used to visit fortune-tellers. The Ari ordered him to perform rectifications (la’asot tikkun) for that time. In his “Practical Kabbalah and Alchemy” Vital recommends an incantation consisting of the invocation of the name ZGNZG’L three times. To a more popular level of incantations belongs the custom recorded in the Sefer ‘Eshkol to recite the names of the ten sons of Rav Pappa after the completion of a tractate of the Talmud as a means against forgetfulness.

**Talismans**

Talismans consisting of an object on which a complete Bible-verse, or the initial letters of the words of an effective Biblical verse combined into a magical name are written, are repeatedly recommended for forgetfulness. An example is “Ayin, Ayin, Lamed, Yud, Yud, Het, Waw,” derived from Is. 26:1: “Ir ‘ez lanu yeshu’ah yashit homot wa-‘hel.” Then one should write this magical name on parchment and hang it around one’s neck to strengthen memory. A specific use of talismans is described in a recipe for forgetfulness attributed to R. El’azar ha-Qallir:

[A recipe] for forgetfulness, tested and reliable: R. Saadya bar Yoseph used to employ it when he had found it in the cave of R. El’azar ha-Qallir: all the sages of Israel and their students use it and have success with it: Take at the beginning of the month Siwan flour of barley, knead it while standing, make cakes of it and write on it: “Zekher ‘asah le-nifla’otav” (Ps. 111: 4); then take an egg, boil it well, peel it and write on it: “Aspayam kisatam taramta ozen dikhaza”; eat that cake every day for thirty days with the egg and you will learn everything you like to, and will not forget it.

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13 See Scholem, *ibid*. Lurianic Kabbalah did not call this angel *Putaḥ*, but *Puraḥ*.  
14 See *Sefer Toledot ha-‘Ari*, Jerusalem 1967, pp. 290–1.  
17 *Sefer ‘Eshkol*, Hilkhote Sefer Toraḥ, p. 49.  
19 See Ignaz Goldziher, “Muhammedanischer Aberglaube über Gedächtniskraft und Vergesslichkeit, mit Parallelen aus der jüdischen Literatur,” *Festschrift Abraham Berliner*
This recipe is actually quoted by Moshe Mizrahi, an acquaintance of Vital in Damascus, in his recipe book in the name of El'azar ha-Qallir. A Jewish tradition recorded by Nathan Ben Yehiel states that there is a place where a cake is called “qallir” (collyrum), and that R. El'azar is called “ha-Qallir”, because he used to eat a cake with a magical name written on it. As a result of this he became very wise (nitpakkeal). A similar praxis features in the Cairo Geniza: “The opening of the heart. Write and wash off with water, and in the same water you should knead a dough of barley, and make three cakes from it, and eat from them every day, a cake a day, before studying. This is what you should write: (magic names).” From the Ashkenazi educational system during the High Middle Ages we know about the ritual to give to school children at the beginning of their studies delicacies like cakes “li-fetihat ha-lev.” May one suggest that these cakes were also inscribed with magical names? Anyhow, these magical praxes are similar to the magical technique which recommends to erase the formula with a liquid and then drink it. An example of such a praxis preserved in Vital’s “Practical Kabbalah and Alchemy”, is: “Take three leaves of the Rubus sanctus (ganeh), on the first leaf write TTYTYTYH; on the second SSS, and on the third leaf PPPYH; erase the names with wine or water and drink this. Even if one has only learned Humash (Five Books of Moses), his heart will be opened (yippatah libbo) so that the miracle will be great.” The specific procedure common to all these recipes, namely, to transfer the charm in physical form, was very common practice in medieval love charms.

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20 See my forthcoming article, op. cit., note 16 above.


23 For its identification see Judah Feliks. *Olam ha-Zomeah ha-Migra’i*, Tel-Aviv 1957, p. 110.


Amulets

The Sefer ha-Nisyonot, a medical treatise of a profound magical character ascribed to Abraham ibn Ezra, and based on a lost treatise by the Andalusian physician ‘Abd al-Rahmān ibn al-Haytam al-Qurṭubi, who died in 951, recommends the following amulets for someone suffering from forgetfulness:

Said Dioscurides: if you take the stone called *lapis judaicus* which has streaks [on its surface], and hang it on him, this will help him regain his memory. He who wears it will also be saved from every evil eye and every [kind of] sorcery, that they will not be able to dominate him. And al-Tabarî said: if the eye of a hoopoe together with its tongue is hung on his neck he will remember more than he has forgotten. Said Rhazes: if you take one of a wolf’s teeth as well as its claws and feet and put them in a piece of linen cloth and hang [them] on the neck of the person who has lost his memory, he will benefit from it. Said the EXPERIMENTER: if the head and tongue of a cuckoo are taken and hung on this person, the result will be a manifest improvement of memory.27

Dioscurides does not mention this magical property of the *lapis judaicus*, which is usually identified as the “calcified prickel of the sea-urchin, Echinus,”28 but remarks that it is good for kidney stones and for difficulty in micturition. The closest parallel I could find is his statement about the “snake stone” with white stripes that it is good for headache and lethargy.29

The recommendation by al-Tabarî to hang the eye and tongue of a hoopoe on one’s neck, features in his medical compendium entitled *Firdaws al-hikma*, which he composed in 850.30 This recipe was in minor variations widely promulgated in medieval literature. It features in the only surviving Arabic monograph devoted to forgetfulness and its treatment, namely, the *Risāla fi l-nisyān wa-‘ilājihi* (On forgetfulness and its treatment), composed by Ibn al-Jazzār (10th century).31 This work was

29 Ed. Wellmann, op. cit., note 28 above, bk. 5, ch. 143. For a discussion of the medieval interest in stones see my article, note 16 above, p. 97.
31 See my forthcoming critical edition of the Arabic text and Hebrew translations with
translated into Hebrew by two different translators, and was thus influential in Jewish circles as well. Leone Modena himself quotes this recipe with the words: “Amongst the remedies of the Rava we find that the eye and tongue of the shahaf 32 which is called “cucco” in Italian, fumigated with castor and hung on the neck of someone, is very good for forgetfulness.” 33 Mosheh Mizrachi quotes it as: “If you take the eyes of the hoopoe (hudud) which is the “tarregol ha-bar” 34, and its tongue, and hang it on someone suffering from constant forgetfulness, he will remember all he forgot.” 35 In medieval western Europe it is quoted in Albertus Magnus’ Libellus de mirabilibus mundi as: “If the heart of a hoopoe or an eye or brain is hung from one’s neck it confers oblivion and sharpens man’s intellect.” 36

Modena’s reaction to the use of magic

About the use of magic to strengthen memory Modena remarks that when he was still quite young he read himself the testimony of a scholar from the East who maintained that he had tested and successfully tried [a magical technique], and that it proved to be true, because his memory became very strong. Modena’s reaction, however, is one of scepticism when he concludes that the strong memory of this scholar is probably not the result of his experiment. 37 His negative evaluation of the magical method is more evident from his following statement:

If you will listen to my advice let not your heart seduce you to look for a remedy which strengthens your memory by means of Bible verses, amulets, incantations and spells and openings of the heart …; don’t you know that we are not allowed to use them, for Hillel said: Whoever makes [unworthy] use of the Crown passeth away. 38 For those who make use of it are in no way

English translation and commentary, Wellcome Asian Series, published by the Royal Asiatic Society.

32 Shahaf; see ‘Eli’ezar Ben Yehuda, Millon ha-Lashon ha-’Ivrit. Thesaurus totius hebraea et veteris et recentioris, 17 vols., Berlin-Tel Aviv 1910–1959, repr. Tel Aviv 1948–1959, p. 7027; “is usually seagull, but sometimes other birds as well.”
33 Lev Arvah, ed. Venice 1612, Gate 1, ch. 6.
34 L. Lewysohn, Die Zoologie des Talmuds, Frankfurt am Main 1858, pp. 216–8: “Auerhahn” (= heath cock); Marcus Jastrow, A Dictionary of the Targumim, the Talmud Babli and Yerushalmi, and the Mishnaic Literature, 2 vols., New York 1950, vol. 1, p. 188, s.v. bar; “wood-cock” (hen of the prairie).
36 Quoted by Piero Camporesi, Bread of Dreams, translated by David Gentilcore, Cambridge 1989, p. 129. For the use of the bodily parts of animals in medieval Jewish, Islamic and Christian tradition see my article, note 16 above, pp. 75–76.
37 Gate 1, ch. 4.
38 Pirque Avot I: 13.
successful, but every one [of them] looks and becomes stricken and demented, and experience has proven this to us.

The “Crown” referred to is the one into which, according to a Jewish tradition, the ineffable name of God is engraved. Accordingly, the warning concerns an unworthy, magical use of God’s name.

**Medicine**

The use of medicine as a means for strengthening memory has two different aspects: 1. to adhere to a certain preventive regimen, and 2. to actively ingest certain confections and drugs, or to rub the head and temples with refined special unguents. About the first category Modena remarks:

The physicians have written that if someone wants to strengthen the faculties of his mind and above all the memorative faculty, he should take light foodstuffs and beware of coarse ones, such as meat of an ox, hard [-boiled] eggs, walnuts, olives and the like. He should, moreover, beware of cold and heat, of immoderate sleep and waking, of worry and joy; he should avoid all extreme things; he should keep his head well covered, according to the weather, city or place where he lives.

The advice on the preservation of one’s bodily and mental health by means of a correct regimen ensuring a balance of the different fluids and elements of the body, was the subject of a special literary genre which was popular throughout the Middle Ages in Arabic and Western medical literature. In the West the *Regimen* composed in the medical school of Salerno, entitled “Regimen Sanitatis Salernitanum”, was very influential and famous. In Jewish circles Maimonides’ *On the Regimen of Health* enjoyed great popularity and was printed time and again. This genre originated in ancient medicine; in the *Corpus Hippocraticum* we find treatises like the *Regimen in Health* and the *Regimen* devoted to it. Modena’s own judgement of this method is positive:

... Even so in the case of memory it is very good, in my opinion, to beware of everything of which the physicians say that it is harmful for memory,
[especially] when it is a harm mentioned by the Sages, as, for instance, that caused by coarse food which produces stupidity, or the harm caused by wine, intoxicating liquor, drunkenness, by extreme sorrow, laughter, lightheadedness and similar warnings; be industrious [to observe them] and you will remember.\textsuperscript{45}

The medieval medical discussion of forgetfulness and its active treatment basically goes back to Galen (129–199 A.D.), who following Rufus of Ephese, states that loss of memory is caused by a disturbance of the balance of the bodily fluids, namely excessive dryness and heat, and especially cold moisture.\textsuperscript{46} But also psychological factors, like fear, and severe afflictions of the mind are possible causes of forgetfulness.\textsuperscript{47} According to the rule "contraria contrariis curantur," Galen recommends warm, dry remedies when forgetfulness is caused by superfluous cold moisture, and vice versa.\textsuperscript{48}

Galen's expositions are extremely important because his work had a decisive influence on Arab and Jewish physicians through translations of his own works, of the \textit{Summario Alexandrinorum} and of the compendia of the Byzantine compilators.

In Arabic medical literature we find an early recommendation of \textit{balādhur}, one of the most popular drugs for the treatment of forgetfulness during the Middle Ages, in the \textit{K. al-sumām} (On Fatal Drugs)\textsuperscript{49} by Ibn al-Bīṭrīq (d. 815). However, he also points to the risk when this drug is not ingested in the prescribed dose: "When one drinks from the honey of \textit{balādhur} (marsh-nut) half a \textit{dirham}\textsuperscript{50} it is the best [drug] for retention (\textit{hifẓ}), but if one takes two \textit{mithqāl}\textsuperscript{51} it is a fatal drug."\textsuperscript{52}

\textsuperscript{45} Gate 1, ch. 7. Modena's positive evaluation of a preventive regimen is also borne out by his quotation of the well-known passage in TB \textit{Horayyot} 13a–b about five things which strengthen memory and ten things which are harmful for it.


\textsuperscript{48} Kühn, op. cit., note 46 above, p. 165; transl. Siegel 83.


\textsuperscript{50} One \textit{dirham} is 3,125 grams; see Walther Hinz, \textit{Islamische Masse und Gewichte umgerechnet ins metrische System} (Handbuch der Orientalistik I, Ergänzungsband I, 1), repr. with corrections and additions, Leiden/Köln 1970, p. 3.

\textsuperscript{51} One \textit{mithqāl} is 4,464 grams; see Hinz, ibid., p. 4.

\textsuperscript{52} \textit{K. al-Hāwī} I, 156.
The Arab physician Ibn al-Jazzār, whose Risāla fi l-nisyān was, as we saw above, influential in Jewish circles, remarks that forgetfulness is caused by an excess of cold moisture. He accordingly recommends hot, dry remedies, which heat the temperament of the brain and remove the phlegm. Of these especially balādhor is warmly recommended.

The electuaries of the balādhor, and all the confections of which it is a component, which the ancients have composed, are good through the same activity mentioned above with regard to all the other warm, compound drugs. Their usefulness lies in their special quality which they derive from the balādhor or similar drugs. The special quality of the balādhor is its usefulness against forgetfulness.53

Ibn Snā (980-1037), whose medical compendium K. al-Qānūn fi al-tibb was widely read and consulted by Jewish physicians,49 recommends for the treatment of forgetfulness caused by dryness only, balanced moist foodstuff, rubbing of the head, exercise of hands and feet, cupping of the head, and cautery in the neck. In case of cold and moisture he recommends different emetics, living in a house with much light, heating drugs, especially balādhor, gargles and sniff odorants. But one should avoid drinking too much, sleeping too much, especially with a full stomach, washing oneself, and heavy foodstuff.55 These recommendations are obviously a combination of a preventive health regimen and the actual treatment with different drugs and other means.

The Jewish physician Moshe Narboni (c. 1300–1362) discusses forgetfulness extensively in his Sefer Ṭarah Hayyim. He defines forgetfulness (al-nisyān) as “a loss of memory in the posterior brain ventricle” (ḥefse ha-zikhranat bi-meʾiṭḥar ha-moah).56 When caused by cold moisture, he recommends to treat it with sharp clysters, salves, and drugs, amongst which balādhor.57 During the Middle Ages the physicians generally distinguished three ventricles of the brain with their specific functions. The posterior ventricle is regarded as the seat of movement and memory.58

A medieval Jewish popular encyclopaedia discussing the treatment of forgetfulness extensively, is the Shevile Ṭemunah (Paths of Faith), composed by Meir Aldabi (c. 1310–1360). In accordance with the

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54 See my forthcoming article “R. Moshe Narboni, Philosopher and Physician: A Critical Analysis of Sefer Ṭarah Hayyim (Medieval Encounters).”
56 See MS Munich 276, fol. 11a.
57 Ibid., fol. 11b.
58 For the concept of the ventricles of the brain see my forthcoming edition, note 31 above.
generally accepted theory going back to Aristotle, he remarks that memory is the result of the cooperation of the imaginative, estimative, and memorative faculties, and that forgetfulness occurs when one of these is impaired, and continues:

Because the brain is similar to a worm as I have explained above, those moistures hinder it from moving. A remedy for this is to anoint the head with fat of a lion, and to drink beverages which purify the head from the cold coarse moistures, such as a beverage consisting of two and a half zucim\(^{59}\) of pyrethrum with lukewarm water. This will soften the moisture, clean the throat, and increase memory, and will have the same effect as baladhar (marsh-nut).\(^{60}\)

In the act of remembrance a central role was played by the vermis cerebelli as distributor of the psychical pneuma from the anterior to the posterior ventricle of the brain. This pneuma, an elusive vapour, and prepared in the anterior part of the brain from the air inhaled through the nose, fills the brain and its ventricles and activates its functions. This theory was for the first time formulated by Galen in his De usis partium and was generally accepted by Arab and Jewish physicians and philosophers.

Modena’s judgement of the ingestion of drugs

Modena expresses his verdict of the active ingestion of drugs as follows:

Indeed, if you take the remedies mentioned above or prepare unguents. My son must never go down with you (Gen. 42: 38).\(^{61}\) Rather as a warning than as a reminder, O men, I call to you (Prov. 8: 4), because I care for your health and well-being, do not do something like that, lest you expose to great danger the best and choicest part in you. I have seen many people and made the acquaintance of some of them this very day, who because of a frequent use of unguents and because of the eating of all kinds of baladhar lost their mind and became crazy, or became sick and passed away before their time and whose memory has died (Eccl. 9: 5), as well as their good [names]. This happens because most people cannot administer the patient an unguent or drug which fits the temperament of his brain in heat, cold, moisture and dryness. And if this drug dries his brain too much or makes it too moist, he loses his mind or becomes sick, for not all minds are the same.\(^{62}\)

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59 One zuc is about 3.5 grams
60 Shevile Emunah, ed. Warsaw 1886, 71.
61 The reason is that a disaster might occur to him, as indicated in the continuation of the verse quoted: “If he meets with disaster on the journey you are taking ...”. I have rendered Modena’s literal quotations from the Bible in bold characters in order to show his Biblical style. The English translation is that published by the Jewish Publication Society, New York 1985.
62 Gate 1, ch. 7.
It may be clear that his judgement of the active medical treatment of forgetfulness by means of drugs or unguents is very negative, as a result of his own observation. Especially the compounds with balādhur are singled out by him for their innate risk. Balādhur was, as stated above, a very popular drug for treating forgetfulness. Jewish popular literature repeatedly refers to a compound drug of varying composition called “balādhur qātān” as an antidote for memory loss. According to a tradition recorded by Hayyim Vital, the Provence scholars used to give it to their sons every morning for “the opening of their hearts” (petihat lev). A well-known proverb avers: “Repeat and repeat and you will not need balādhur.” Before Modena only Ibn al-Bīrūq recognized, as we saw, the danger involved in an unjudicious application of this drug.

Mnemotechnics

About the use of mnemotechnics the Talmud states: “Rather say: The Judeans who were exact in their language, and who laid down mnemonics for their aid, retained their learning; but the Galileans who were not exact in their language, and who laid down no mnemonics as an aid, did not retain their learning.” As mnemonics the Talmud recommends abbreviation (notafikon), a word or phrase made up of the initial letters of a number of other words, as La’at for Lev (heart), ‘Ayin (eye) and Tehol (milk), repetition and melodious recitation. About repetition it is stated: “R. Yehoshu’a said: He who studies and does not repeat his study (lit. labor in it) is like one who sows and does not reap, and one who studies Torah but forgets is like a woman who gives birth and buries her child.”

We saw in the introduction that according to the Shulḥan ‘Arukh, someone

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63 See my forthcoming article, note 16 above.
65 TB Eruvin 53a.
66 TB Berakhot 31a.
who forgets one thing of what he learned because he did not repeat it, is, as it were, guilty of a capital crime.

Melodious recitation was especially stressed for learning the Mishnah. Traces of the recitation of the Mishnah with melody can be found in editions and manuscripts of the text itself, dating from different periods. The Parma MS, dating from the 12th century is not only vocalised, but also has a system of cantillation.68 The custom of reading aloud with melody in order to memorize large amounts of texts was widespread in the ancient world. Marrow informs us that at least “beginners used to recite in a sing-song manner, syllable by syllable.”69 It is even today the method of memorization in Judaism in rabbinical seminaries (Yeshivot). In Islam the Qur’ān is put to memory in African schools by children chanting texts in sing-song fashion, first the shorter surahs and then the longer and later ones, and many Brahmins learn the more than one thousand hymns of the Rigveda by heart.

Modena’s reaction to the mnemotechnical advise of the Sages to repeat what one learned time and again, is that this is not always helpful. There are, for instance, he remarks, “people from whom nature withheld so much memory, or whose memory was [so much] afflicted by the troubles of the time and weakened, that, even if they read and repeat, and again repeat, and so on up to 400 times ... they cannot retain anything in their memory; they labour in vain, to no avail, to no purpose, but [only causing] dismay.” Moreover, although these mnemonics might have been effective in the days of the Sages, this does not hold good anymore for Modena’s own period. For, as he remarks, since the time of R. Yudah ha-Nasi, when permission was given to write down the Oral Law, forgetfulness has been increasing so much that in his own generation it reigns supreme.70

The classical mnemonic

We know about Modena’s interest in this mnemonic from the fact that he possessed a book on this mnemonic that was printed in Venice in the year 1603.71 Modena remarks:


70 Gate 1, ch. 1.

When someone deposits in the *places* by means of his imaginary faculty the things he wants to [remember], in an order assigned by himself, he can easily remember them by conjuring the memory of the *places* which he invented as if they are standing before his very eyes. This thing is known to all the scholars of the nations; it is called by them “local memory” after the places where one deposits the things, or “artificial memory” because art helps nature.72

The classical mnemonic, consisting of images and places, goes back to Simonides of Cheos, a Greek poet living from 556 until 468 B.C. From there it was transmitted to Rome where it became part of rhetorics as a technique by which the orator could improve his memory. It is described in Cicero’s *De oratore*, Quintilian’s *Institutio oratoria* and most of all in the anonymous *Ad C. Herennium*. This work, which was thought to be from the hand of Cicero as well, and thus very prestigious, was the main source of transmission of the ancient mnemonic to the Middle Ages and Renaissance. It distinguished two kinds of memories, namely, natural (*naturalis*) and artificial (*artificiosa*), and defined the artificial memory as established from places (*loeci*) and images (*imaginis*).73

It was revived as a result of the recommendation by the great scholastics Albertus Magnus and Thomas Aquinas as the best method. Taking as his point of departure the classical mnemonic of *images* and *places*, Thomas Aquinas formulated four basic mnemonic rules which exerted a profound influence on the theoreticians of memory, on theologians, teachers and artists. This revival occurred, as Carruthers remarks, “in the context of the classicizing fervor of the early humanists.” It became the dominant memory technique during the Renaissance by its identification with humanism.74

Modena’s words about the fundamental role of the imaginary faculty in the memory process conform to the theory generally accepted in the Middle Ages, which was based on Aristotle’s *De memoria et reminiscencia* and its commentaries composed by Avicenna and Averroes.75 Aristotle’s description of the functioning of memory was fundamental for the ancient and medieval treatment of this subject. Moreover, Albertus Magnus and Thomas Aquinas treated the *De memoria et reminiscencia* as a philosophical justification for artificial memory, and saw it as a memory treatise in its own kind.76 According to Aristotle, the imaginative faculty trans-

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72 Gate I, ch. 4.
73 See *Ad Herennium* III, XVI–XXIV; Yates, op. cit., note 5 above, pp. 20–22.
74 Carruthers, op. cit., note 5 above, pp. 122–3.
75 See Carruthers, ibid., pp. 46–7.
76 See Yates, op. cit., note 5 above, pp. 46–9; for an exhaustive description of the ancient and medieval “neuropsychology” of memory see Carruthers, op. cit., note 5 above, pp 46–79.
forms the perceptions of the five senses into images, which then become the objects for the intellectual faculty. In other words, it is impossible to think without mental images produced by imagination. In another section Modena complements his explanation of the functioning of memory with the following words:

That it is natural (i.e. memory), is well-tested, for everything which comes up in your memory or reminiscence (hizdakkerutekha) – and thus it was called by the author of the 'Divre Shlomoh' – which is called 'reminiscenze' comes from a place or concrete thing, and the common sense has brought it at that moment to the imagination, and from there to the estimative, cogitative faculty, until [it reaches] the faculty which retains the forms which is called 'retentiva'.

Modena’s description of the four powers of the sensitive soul, namely, common sense, imagination, the estimative power, and the retentive or memorative power is again according to the dominant medieval theory.

Modena’s familiarity with Aristotle’s *De memoria et reminiscencia*, possibly in the form of a commentary, is borne out by the following quotation:

And the Sage has already written about this in his *Tiv’iyot*: “The nature of the likenesses (higguyim) and resemblance (hiddamut) [is such] that if one’s mind distributes the parts of something, it resembles a tree with branches, and if one’s mind arranges something in grades (madregot), it resembles steps (ma’alot) and rungs (shelabbim), and in this way one remembers what one forgot etc."

The term “Tiv’iyot” refers to Aristotle’s *Parva naturalia*, under which term his *De memoria et reminiscencia* was usually quoted. Modena’s quotation does not feature in Aristotle’s treatise, nor in Averroes’ *Epitome*. It is possibly derived from an unidentified ancient or medieval commentator.

The classical mnemonic is discussed by other Jewish authors as well, as was already noticed by Modena:

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78 Gate 1, ch. 10.


80 Gate 1, ch. 4.


82 The quotation by Modena is possibly an interpretation of *De memoria et reminiscencia* 452a 8–16.
The scholar, author of the ‘Aqedah (Isaac Arama) said the following in the 90th “Portal”: Just like the scholars of the nations invented an art which they publicized (promoted) to improve the memorative power and to correct its defectiveness. The art which they invented for this is to draw and form by means of the imaginary faculty [well-known images and familiar places, in which one deposits what one wants to, according to the relation or likeness the particular thing has to that place or moment that it is deposited. Later on when one remembers the images and places which are very familiar to one, those things which one wants to remember will be remembered and recalled together with them, without any doubt.83

A second Jewish author referred to by Modena, is Yudah ben Yehi’el (Messer Leon, 15th cent.), a typical representative of the Jewish humanism of the Renaissance. Modena remarks:

The author of Sefer Nofet Zufim when discussing in a clear and pleasant way rhetorics, dealt with this art and explained it briefly in chapter thirteen of book one. He showed that this art is of major advantage in [the performance of] the positive commandments, and that the vessels and form of the temple, its general and detailed prescriptions were given as symbols of spiritual matters in this way [i.e.: by causing remembrance of great truths of divine revelation].84

The Sefer Nofet Zufim is a work on rhetoric, adapting the humanistic art of rhetoric which is based on the rhetorical rules of Aristotle, Cicero and Quintilian, to Hebrew models. Quoting “Tullio” (Cicero), Messer Leon gives a description of the ancient mnemonic of places and images. He distinguishes between two kinds of memory, namely the “natural” (tiv’i) and “artificial” (melakhuti). This last kind using places (megomot) and images (zurot) is the one by which the natural memory should be strengthened.

Modena’s evaluation of the classical mnemonic

It is easy for everyone to lengthen ten steps (i.e. proceed) (2 Kings 20: 10) [in praise of] of this kind of memory, and to leave behind him the other kinds, once he has heard the danger and harm inherent in them for body and soul, and sometimes it is doubtful whether they are beneficial or harmful, for they are worthless (1 Sam. 12: 21). But this [kind of memory] is something which is not harmful because it is a natural thing, and everything which is natural

83 Gate 1, ch. 4. The ‘Aqedah or ‘Aqedat Yizhak by Isaac Arama (c. 1420–1494), is a philosophical and allegorical commentary on the Pentateuch consisting of 105 “Portals”; cf. Encyclopaedia Judaica, vol. 3, col. 257, s.v. “Arama, Isaac Ben Moses” (S. H. Wilensky).

cannot harm, and this is a natural thing; it is therefore beneficial and not harmful.\footnote{Gate 1, ch. 10.}

The quotation shows clearly that the author only recommends the classical mnemonic, because it is “natural,” while he once again strongly condemns the magical and medical methods, qualifying them as “worthless.”

Since the classical mnemonic is according to Modena the only good way to strengthen memory, he proceeds to show that this mnemonic can already be found in the Bible:

What we have said ... about the existence of a design by means of places and images prepared by the imagination to remember all that comes to one's mind ... was not too baffling (Deut. 30: 11) for our Sages, the divine ones, who preceded the others herein, as it is taught in a Baraita in Menahot: That ye may look upon it, and remember (Num. 15: 39), that is, look upon this precept and remember another precept that is dependent upon it, namely, the reading of the Shema'. As we have learnt: From what time in the morning may the Shema' be read? From the time that one can distinguish between blue and white (Berakhhot 9b). Another [Baraita] taught: That ye may look upon it, and remember, that is, look upon this precept, and remember another precept that is next to it, namely, the law concerning mingled stuffs. for it is written Thou shalt not wear a mingled stuff (Deut. 22: 11) ... and it is followed by Thou shalt make thee twisted cords (Deut. 22: 12).\footnote{Gate 1, ch. 9. The Talmudic quotation is from Menahot 43b.}

The strategy of finding a precedent for all kinds of learning in the Bible goes back to Hellenistic times and was employed by the Jews of the Renaissance for justifying cultural innovations. In this way they could argue that they were not imitating foreign nations, but merely recovering what had been lost by the Jews but preserved by the nations.\footnote{See Arthur M. Lesley, “Jewish Adaptation of Humanist Concepts in Fifteenth- and Sixteenth Century Italy,” Essential Papers on Jewish Culture in Renaissance and Baroque Italy, ed. by David B. Ruderman, New York and London 1992, pp. 46–47.} Modena remarks that many question the classical method, wondering if they could not with the same effort and strain with which they engrave in their imagination the images and places relevant for their remembrance, absorb in their mind and remember the very thing simply as it is, word for word, as every child who tries to remember Psalms. His answer to them is that he also spoke and believed like them until he tried the classical mnemonic. He then found that in the case of everything that is learned by heart in the traditional way, one is not sure that if one wants to remember it one has not actually forgotten part of it. But if one takes the trouble of relating things one wishes to remember to images and of arranging them
in places, this double effort will, as he says, be a memorial similar to ink written on paper in front of us.88

*Application of the classical mnemonic*

Modena gives several examples of the application of this mnemonic, some of them specifically Jewish. First of all, the most important one in his view, namely, the lay-out of a page or folio, and the particular form of a book. Modena advises that when one writes something down in order to learn it by heart, one should write every new paragraph with [extra] space between the adjoining ones, write its beginning with large letters, and use illustrations and different methods according to what is required. This was, as he says, perhaps the reason why the scribes of the Torah indicated its [different] sections, closed and open ones, and used large and small letters, and separation-signs (Pešakim) in the middle of a verse.89 The mnemonic value of the page lay-out was widely-known during the Middle Ages and is discussed in the memory treatises.90

When we want to recall something we have heard rather than seen, we should, says Narboni, attach to the words we hear the place we were in, the time during which this took place, and the appearance and gestures of the person speaking. The synaesthesia applied in this case is, as Carruthers remarks, “an articulated principle in medieval mnemonics.” For instance, Hugh of St. Victor insists that acoustically received material must be translated to visual terms and so fixed in memory.91

In order to remember numbers, we should, according to the author, visualize them in different forms: for instance, the number ten as one column, twenty as two columns, thirty as a fork with three teeth, forty as a table, fifty as the Humash (Five Books) of the Torah etc.92 This method consisting of memory-images for numbers, is reminiscent of that employed by Thomas Bradwardine, mathematician and theologian at Merton College from 1325 to 1335 in a memory treatise attributed to him. He advises, for instance, to use a unicorn for the number one, a lamb with seven horns for seven, a dismembered hand with only nine digits for nine, and a zero or Greek chi for ten.93 This method is still popular today as I

88 Gate 1, ch. 12.
89 Gate 1, ch. 10.
90 Carruthers, op. cit., note 5 above, p. 95.
91 Gate 1, ch. 10; Carruthers, ibidem.
92 Gate 2, ch. 7.
93 Carruthers, op. cit., note 5 above, p. 136.
learned from a recent newspaper-article on the World Memory Championship games. One of the participants, an astrophysicist and mother-of-three from Radlett remarked when interviewed: “I memorise numbers by converting them into images, it’s quite easy really.”

Other memory-images discussed by Narboni are those for the planets. A bloodthirsty person with red hair (Ish damim u-se’aro adom); for Kabbalah: R. Shim’on bar Yoḥai; for medicine: ha-Rambam (Maimonides); for Rabbi Ṭarfon: a preying hawk (Nez ṭoref); for R. Joseph Caro: a laid table; for the city Ferrara: an iron woman. To remember what the study of that which is beyond nature is called in Greek, namely “metaphysica”, he recommends the image of a bed (mīṭṭah) with a man and woman lying on it, or, according to the Italian “metafisica”, a half (metà) of a female doctor (fisica).

The examples quoted so far show clearly that in a strict sense they do not comply with the definition of the classical mnemonic as consisting of images and places, but belong to different categories, some of them quite common in the Middle Ages.

The author concludes his treatise with a mnemonic devised by Nathan Ottolenghi for the remembrance of the 613 commandments of rabbinic Judaism according to Maimonides. According to this mnemonic one should divide the commandments in series of ten, and to each series one should give a title covering the contents of the first commandment, as, for instance, God, Torah, Temple, etc.

At the end of my discussion of mnemotechnics in the Jewish tradition I would like to console those suffering from forgetfulness with Modena’s statement that one should not only learn how to remember, but also how to forget, because sometimes it is necessary to forget certain things in order to make room for other things. This recognition of forgetfulness as a positive value would return in a specific sense, namely, as an absolute disavowal of the Jewish tradition (nikkur maḥlat min ha-massoret ha-

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94 Gate 3, ch. 3.
95 Gate 3, ch. 7.
96 Gate 3, ch. 8.
97 R. Joseph Caro is the author of the halakhic compendium called Shulḥan Ārukh (Laid Table).
98 Cf. Cohen, op. cit., note 7 above, p. 216, note e.
99 Gate 3, ch. 12.
yeḥudit) in the theology of R. Nahman of Braslav,\textsuperscript{100} who is reported to have said: “Takhliṭ ha-yedi’ah hi ’asher lo neda’” (The [final] goal of knowledge is not to know).\textsuperscript{101}

\begin{footnotesize}
\textsuperscript{100} Joseph Weiss, “R. Naḥman mi-Braslav ‘al ha-maḥloket ‘alav,” Mehqarim ha-
\textsuperscript{101} See Rappoport-Albert, ibid., pp. 23–6.
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