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Abraham bar Ḥiyya (d. ca. 1140) and the Andalusi Reception of Al-Fārābī's *Enumeration of the Sciences* (*Iḥṣāʾ al-ʿulūm*)

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Thème

The Fear of God and the Classification of Science

Abraham bar Ḥiyya (d. ca. 1140) and the Andalusi Reception of Al-Fārābī's *Enumeration of the Sciences* (*Iḥṣāʾ al-ʿulūm*)[1]

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Abstract

This article traces the association between wisdom and the fear of God in two encyclopedias of science that circulated in medieval Iberia: Enumeration of the Sciences by al-Fārābī and The Foundations of Intelligence and the Tower of Faith by Bar Ḥiyya. It offers insight into the polemical reception of al-Fārābī's work in the Iberian Peninsula; an analysis of Bar Ḥiyya's introduction to his encyclopedia, in which the fear of God occupies a central place; and an analysis of the epilogue of the only Andalusian manuscript that preserves al-Fārābī's Enumeration, which also emphasizes the fear of God. The article argues that al-Fārābī's rather scandalous reputation in al-Andalus could explain the framing of his classification of the sciences, and those inspired by it, with pious considerations on the fear of God as a necessary condition to the study of science.

Résumé

Cet article retrace l'association entre la sagesse et la crainte de Dieu dans deux encyclopédies des sciences qui ont circulé en Ibérie médiévale : l'*Énumération des sciences* d'al-Fārābī et *Les fondements de l'intelligence et la tour de la foi* de Bar Ḥiyya. Il offre un aperçu de la réception polémique de l'oeuvre d'al-Fārābī dans la péninsule ibérique ; une analyse de l'introduction de l'encyclopédie de Bar Ḥiyya, dans laquelle la crainte de Dieu occupe une place centrale ; et une analyse de l'épilogue du seul manuscrit andalou qui conserve l'*Énumération* d'al-Fārābī, mettant également l'accent sur la crainte de Dieu. L'article soutient que la réputation plutôt scandaleuse d'al-Fārābī en al-Andalus pourrait expliquer l'encadrement de sa classification des sciences, et de ceux qui s'en inspirent, avec de considérations pieuses sur la crainte de Dieu comme condition nécessaire à l'étude de la science.

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In medieval Jewish philosophy, the fear of the Lord (*yirʾat ha-Šem*) and the beginning of wisdom (*teḥilat ḥoḵmah,* or *rešit ḥoḵmah*) are strongly associated, in connection to biblical verses such as "fear of the Lord is the beginning of wisdom" (Prov. 9:10). This association is explicitly spelled out in the introduction to the first Hebrew encyclopedia of the sciences known to us, the *Foundations of Intelligence and the Tower of Faith* (*Yesode ha-tebunah u-migdal ha-ʾemunah*) by the twelfth-century Catalan Jewish philosopher and scientist Abraham bar Ḥiyya. This work, inspired by al-Fārābī's *Enumeration of the Sciences* (*Iḥṣāʾ al-ʿulūm*), was given a decidedly Jewish spin by Bar Ḥiyya in his introduction, which anchors it in the interpretation of three biblical verses that place the fear of God in a pivotal position. In the following article, I will offer an overview of the reception of al-Fārābī's work in the Iberian Peninsula; an analysis of Bar Ḥiyya's introduction to his encyclopedia, in which the fear of God occupies a central place; and the text of the epilogue of the only Andalusi manuscript that preserves the Farabian text of *Enumeration of the Sciences* (MS El Escorial 646) which presents, albeit in much more succinct and less elaborated manner, a similar emphasis on the fear of God (*taqwā Allāh*). I will argue that al-Fārābī's rather scandalous reputation in al-Andalus might have prompted the framing of his classification of the sciences, and those inspired by it, with pious considerations of the fear of God as a necessary condition for the study of science.

1 The Andalusi Reception of al-Fārābī's and His *Enumeration of the Sciences* (*Iḥṣāʾ al-ʿulūm*)

1.1 The Andalusi Reception of al-Fārābī Among the Muslims

The works of al-Fārābī (ca. 870-950 CE), philosopher born in Khurasan and who developed his thought in the Eastern Islamic lands, were most likely among the first philosophical texts composed in Arabic that reached al-Andalus, although the exact date of their arrival is not known to us (Cruz Hernández 2000, 89). Al-Fārābī, who is praised in the Arabic philosophical tradition as "the second master" (second only to Aristotle), represents a particular strand of Aristotelianism tinged with Neoplatonic elements (Druart 1992). His work was essential in the creation of a philosophical curriculum of study in the Islamicate world (Reisman 2005). The curriculum of the Arabo-Islamic philosophers followed in its main lines that of the Alexandrian philosophers of Late Antiquity: starting with the propaedeutic sciences such as logic, mathematics, and music, it advanced gradually into more complicated matters, such as physics and metaphysics (Vallat 2004). This program of study of increasing difficulty agrees with the Aristotelian idea, expressed in *Analytica Posteriora* I, 2 (71b, 19-25) that there is an opposition between the things that are accessible to our knowledge in the first place and the things that are first in the order of being. According to H. A. Wolfson, the classification of the sciences of Aristotelian inspiration[2] was introduced into Arabic philosophy through the translation of the Alexandrian John Philoponus' commentary on Porphyry's *Isagoge* (Wolfson 1925, 264-265). However, Arabo-Islamic philosophers had to introduce some adjustments into the Alexandrian curriculum to make space for the Islamic religious sciences. Thus, for instance, we find in al-Fārābī's *Enumeration of the sciences* the following disciplines, to be studied successively in order of increasing difficulty: language, logic, the mathematical sciences (i.e., arithmetic, geometry, optics, astronomy, music, engineering, and mechanics), physics, metaphysics, politics, Islamic law (*fiqh*), and Islamic rational theology (*kalām*).

The earliest references to the development of science in al-Andalus are from the end of the ninth or the beginning of the tenth centuries CE, and they refer to medicine, mathematics, and astronomy (Ramón Guerrero 1991b, 1193). It is reported that the first properly philosophical works in Arabic were brought to al-Andalus by the caliph al-Ḥakam II (r. 961-976 CE), and that this first wave of books containing the wisdom of the ancients had to face resistance from the local Mālikī clerics (Abbès 2013). Andalusian thinkers started to engage in the question of the classification of

science starting from the mid-eleventh century CE. As Miquel Forcada notes, several Andalusi authors such as Ibn ʿAbd al-Barr (978-1071 CE), Ibn Ḥazm (994-1064 CE), and Ṣāʿid al-Andalusī (1029-1070 CE) developed this topic (Forcada 2006, 288). Among these early systems, those by Ibn ʿAbd al-Barr and Ibn Ḥazm emphasize the place of the Islamic religious sciences, whereas Ṣāʿid al-Andalusī omits the religious sciences altogether. Despite these differences, the underlying organizing classification common to all of them is of Aristotelian-Farabian origin.

Muslim and Jewish intellectuals alike adopted this curriculum in al-Andalus, as we can read in the testimony provided by Ṣāʿid al-Andalusī, one of the earlier, if not the earliest source attesting to the explicit knowledge of al-Fārābī in al-Andalus[3]. In his *Ṭabaqāt al-umam* (1068 CE), Ṣāʿid al-Andalusī describes al-Fārābī as "truly the philosopher of the Muslims" and praises him on account of his unsurpassed knowledge of logic, the composition of the first comprehensive encyclopedia of the sciences (his work *Iḥṣāʾ al-ʿulūm*), and his book on the agreement of the philosophy of Plato and Aristotle (Ṣāʿid al-Andalusī 1991, 49).

Ṣāʿid al-Andalusī describes in detail the intellectual scene of the city of Saragossa, which in the eleventh century CE was the capital of a petty-kingdom (*ṭāʾifa*) ruled by the dynasty of the Banū Hūd. Under the Hūdids, Saragossa became a very active center of scientific and philosophic activity, and it is likely that it was the place in which the works of al-Fārābī were first studied in al-Andalus. Not only were his works studied, but also his recommendations on the proper curriculum of study were followed, as we can see in Ṣāʿid al-Andalusī's report on a contemporary Jewish Saragossan youth, Abū'l-Faḍl ibn Ḥasdāy:

> [Abū'l-Faḍl] studied the sciences in the proper order [*ʿalā marātibihā*], adopting the best methods [*ʿalā ṭuruqihā*]. He learned with precision the Arabic language, its rhetoric, and the composition of poetry. He excelled in the science of number, geometry, and astronomy. He understood the art of music and tried to practice it. He showed deep interest in the science of logic and practiced the various methods of research and observations in this field. Then he elevated himself to the study of the natural sciences and began by studying Aristotle's book of *al-Kiyān* [*Physics*] until he understood it well, then he took to the study of *Kitāb al-samāʾ waʾl-ʿālam* [Aristotle's *On the Heavens*]. This is when I left him in A.H 458 [1065 CE], while he was uncovering the unknown. If Allah provides him with His protection and he lives long, he shall perform well in the field of philosophy and all its branches.
>
> Ṣāʿid al-Andalusī 1991, 81-82; Stroumsa 2019, 90-95

The grammarian and philosopher Ibn al-Sīd of Badajoz (1052-1127 CE), who spent part of his life in Hūdid Saragossa (Serrano 2002), explicitly refers to al-Fārābī on several occasions in his works, as Elamrani-Jamal has indicated (Elamrani-Jamal 1996, 321, note 291). Interestingly, Ibn al-Sīd referred to al-Fārābī in the context of his defense of the Andalusi poet Abū'l-Walīd al-Waqqašī (1017-1095 CE) in his *Book of Questions and Answers about Grammar* (*Kitāb al-masāʾil waʾl-ajwiba fīʾl-naḥw*). This poet had been accused of infidelity (*kufr*) for having allegedly composed the following verses:

> I grieve because the human sciences are only two, / and if I learn them, there will be nothing else for me to learn:
> one [science] whose proof is impossible, / and another one whose truth is useless.
>
> Nykl 1946, 309

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It is not immediately clear which are the two sciences referred to here, but the phrasing of the poem recalls a widely cited expression sometimes ascribed to the Prophet, despite the fact that it is not present in the canonical *ḥadīth* compilations, which reads: *al-ʿilm ʿilmān, ʿilm al-adyān wa-ʿilm al-abdān* (namely, "the sciences are two: the science of religions and the science of bodies"). Northrup cites a tenth century Andalusi source ascribing the saying not to the Prophet, but to al-Šāfiʿī, showing that the saying was known in al-Andalus at this time (Northrup 2013, 17). It may be that al-Waqqašī was playing on this well-known expression, spinning it and giving it a bitter, despondent sense (the science of religions as being impossible to demonstrate, the science of bodies, often understood as medicine, as being ultimately useless, since everybody dies in the end).

Ibn al-Sīd's defense of the poet is noteworthy for us, in as much as he resorts to al-Fārābī:

> By my life, this poem is obscure and the meaning intended by its author is ambiguous! It is possible, however, to take it in a good sense and interpret it differently […]. Al-Fārābī says that the Greek philosophers, Aristotle and the rest of them, thought that there is no difference between philosophy and revelation regarding the aim that they seek. But philosophy establishes things by demonstration and intellectual representation, whereas revelation establishes them by persuasion and imaginative representation.
>
> Asín Palacios 1935, 380-385

As we can see, Ibn al-Sīd tries to do what we might call a "compassionate reading", explaining the poem in the best (most pious) way. He resorts to the authority of al-Fārābī, ascribing to him the claim that the aim of philosophy and revelation (the two sciences in the poem) are the same, and the difference lies only in the methods they employ. What is noteworthy is that we find here, for the first time in al-Andalus, a reference to al-Fārābī in a polemical context, at a very early stage of his Andalusian reception. Ibn al-Sīd is taking a side in the defense of al-Waqqašī, and he is also bringing al-Fārābī in for the ride, so to speak. As we shall see, it is not the only occasion in which al-Fārābī will be suspected of religious impropriety in al-Andalus (namely, the idea that religious sciences cannot be demonstrated, and are, at least in that sense, "inferior" to the demonstrable sciences).

Scholars generally recognize a more systematic knowledge of al-Fārābī in the works of yet another Saragossan philosopher, Ibn Bājja (ca. 1085-1139 CE), at the beginning of the twelfth century. Ibn Bājja is arguably the first Andalusian to have made important contributions to philosophy, with commentaries to the logical and physical works of Aristotle. He is maybe best known on account of his work *The Regime of the Solitary* (*Tadbīr al-mutawaḥḥid*), in which he presents a pessimistic take on social life, and an ideal of solitary isolation as the best possible situation for the life of the mind. As Pines remarked, Ibn Bājja provided a glimpse of his personal intellectual autobiography in a letter that he sent to Abū Jaʿfar Yūsuf ibn Ḥasday, the grandson of Abū'l-Faḍl ibn Ḥasday, whom we have encountered earlier (Stroumsa 2016, 23, note 41). In this letter, Ibn Bājja explained that after having perfected his knowledge of music, he undertook the study of astronomy, and simultaneously the study of al-Fārābī's works on logic. After that, he moved on to physics (Pines 1986, 442, note 9; Forcada 2006, 296). Ibn Bājja not only left us this memory of his personal path of instruction, but he also provided more systematic texts on the classification of the sciences, such as the one he inserted into his glosses to al-Fārābī' commentary to Porphyry's *Isagoge*[4]. In this text, Ibn Bājja culls together several Farabian sources, but gives them his own spin: whereas al-Fārābī goes from physics to metaphysics and politics, ascending according to the order of instruction, Ibn Bājja goes from theology to physics and politics, descending according to the order of importance of the subject-matter. We can see there a devaluation of politics at play, which agrees with his utterly pessimistic take in *Regime of the Solitary*.

One generation after Ibn Bājja, again a fellow Saragossan, Ibn Ṭufayl (ca. 1105-1185) famously referred to al-Fārābī in his introduction to the philosophical account of the autodidact philosopher, *Risālat Ḥayy ibn Yaqẓān*:

> Those of al-Fārābī's books that have reached us are for the most part on logic, and those on philosophy are full of doubts. In *The Ideal Religion* [*Kitāb al-millah al-fāḍilah*] he affirms that the souls of the wicked live on forever in infinite torments after death. But in his *Civil Politics* [*Al-siyāsah al-madanīyah*] he says plainly that they dissolve into nothings and that only the perfected souls of the good achieve immortality. Finally, in his commentary on *Aristotle's Ethics* [*Kitāb al-aḵlāq*], discussing human happiness, he says that it exists only in this life, and on the heels of that has words to the effect that all other claims are senseless ravings and old wives' tales. This makes mankind at large despair of God's mercy. It puts the wicked on the same level with the good, for it makes nothingness the ultimate destiny of us all. This is an unspeakable lapse, an unforgivable fall. This on top of his misbelief, openly avowed, that prophecy belongs properly to the imagination, and his preference of philosophy to revelation – and many more failings which I pass over.
>
> Ibn Ṭufayl 2009, 100

The importance of al-Fārābī is clear and well-acknowledged, however, his name is heavily associated with the suspicion of heterodoxy, as we can see in the texts by Ibn al-Sīd (who rejects this idea) and Ibn Ṭufayl (who fully embraces it, denouncing al-Fārābī's misbelief). Precisely because of reports such as the above-cited text by Ibn Ṭufayl, which said that al-Fārābī denied the possibility of immortality and the existence of any kind of happiness other than political in his (now lost) commentary on *Nicomachean Ethics*, al-Fārābī became, in the words of Neria, "an Andalusian scandal" (Neria 2013, 75). Based on the analysis of some fragments of this lost commentary which have been preserved in Latin and Hebrew manuscripts, Neria was able to conclude that this scandalous reputation was not completely unfounded, as "certain of these doctrines attributed to al-Fārābī were indeed propounded by him in his commentary" (Neria 2013, 76). I would suggest that the whiff of heterodoxy around al-Fārābī might explain why later authors who reproduced or were inspired by his systematic presentation of the sciences chose to emphasize as well that the fear of God must always go hand in hand with the knowledge of science.

1.2 The Andalusi Reception of al-Fārābī Among the Jews

Among the Jewish philosophers of Al-Andalus, Mošeh ibn ʿEzraʾ (d. after 1138 CE) seems to have been the first to mention the name of al-Fārābī, as Fenton has indicated (Fenton 1976, 297). Ibn Ezra cites a passage about the incapacity of the human intellect to apprehend the Prime Essence from a work by al-Fārābī to which he refers to as *Al-sīra al-fāḍila* (a probable reference to *The Opinions of the Inhabitants of the Virtuous City*, *al-Madīna al-fāḍila*). Aside from this brief mention, the first significant reception of al-Fārābī among Jewish philosophers is found in Abraham bar Ḥiyya.

Abraham bar Ḥiyya (d. ca. 1140 CE) was a Neoplatonic philosopher and astronomer who lived in Barcelona, and who probably held an important position in the community, since he received honorific titles, such as "Savasorda" (a corruption of the Arabic "*ṣāḥib al-šurṭa*", chief of the guard) and "*nasi*" (Hebrew word that means "prince", and that was used to refer to persons in position of authority). We know that in Barcelona he collaborated with Plato of Tivoli in the translation of astronomical works from Arabic into Latin. He also translated Arabic works into Hebrew for the Jews of southern France, predating the famous translations of the Ibn Tibbon family (Ephros 1974). He was the first Jewish philosopher in medieval Spain who wrote in Hebrew language, not in Arabic. He composed works on metaphysics and ethics, such as *Meditation of the Sad Soul*, on eschatology, such as *The Scroll of the Revealer* (Töyrylä 2014), and on the sciences and astronomy, explaining the Ptolemaic system in Hebrew for the first time (Romano 1992; Sela 2006). In this last

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category is the first Hebrew encyclopedia of science, *The Foundations of Intelligence and the Tower of Faith* (*Yesode ha-tebunah u-migdal ha-ʾemunah*), which we will discuss in detail in what follows.

Even though Bar Ḥiyya does not refer to al-Farābī by name, scholars have long noted that he was no stranger to the Farabian corpus. Jacob Guttmann already indicated in 1900 that a passage in *Meditation of the Sad Soul* about the different types of the communities of believers seemed to draw from al-Fārābī's *The Opinions of the Inhabitants of the Virtuous City* (Guttmann 1900, 212 note 3). Georges Vajda expanded on Guttmann's brief indication (Vajda 1938). Moreover, Bar Ḥiyya's encyclopedia of science, *The Foundations of Intelligence and the Tower of Faith*, a pioneer of its genre in the Hebrew language, is heavily inspired by al-Fārābī's *Iḥṣāʾ* both in its general conception, and in the contents of some of its sections. As Millás Vallicrosa, editor and translator of *The Foundations of Intelligence*, demonstrated, Bar Ḥiyya's section on optics is almost a literal translation of al-Fārābī's corresponding section (Millás Vallicrosa 1952, 18-19; Rubio 2000, 145).

After Abraham bar Ḥiyya, Jewish philosophers in al-Andalus would continue to read al-Fārābī. In the twelfth century, the work of Abraham ibn Daud (ca. 1110-1180) *The Sublime Faith* (*ha-ʾEmunah ha-ramah*) shows knowledge of al-Fārābī (Fontaine 1990, 256-257), as does the work of Maimonides (1138-1204), who often refers to him with high praise and mentions him as one of his philosophical heroes in one of his letters to Samuel ibn Tibbon (Pines 1963, LXXVIII-XCII; Strauss 1936).

2 The Fear of God in Abraham bar Ḥiyya's The Foundations of Intelligence and the Tower of Faith

Abraham bar Ḥiyya's *The Foundations of Intelligence and the Tower of Faith* (*Yesode ha-tebunah u-migdal ha-ʾemunah*) is the first medieval Hebrew encyclopedia of the sciences that is known to us, at least partially. It was probably composed in the first quarter of the twelfth century, and it has reached us in incomplete condition: we only have the introduction, and the beginning of the first part (the sections dedicated to arithmetic and geometry, and the beginning of the section on music)[5]. As its title states, the work was to be divided in two main parts: the "foundations of intelligence" (*yesode ha-tebunah*) and the "tower of faith" (*migdal ha-ʾemunah*). In the projected table of contents, the first part, about scientific knowledge, was divided into four parts: 1) propaedeutic sciences: arithmetic, geometry, music, astronomy, logic; 2) physics; 3) politics; and 4) metaphysics. Of the second part, the "tower of faith", dedicated to the religious sciences, nothing has reached us, and it is not known whether it was ever composed, or whether it was composed and subsequently lost.

The text is preceded by the following explanation, obviously added by a later copyist: "This is the book of *The Foundations of Intelligence and the Tower of Faith*, which was translated (*neʿetaq*) from Arabic into Hebrew by the prince, the sage R. Abraham ben R. Ḥiyya, the Sephardi, may his memory be for a blessing" (Millás Vallicrosa 1952, 3)[6]. This introductory sentence openly states that the work is a translation from Arabic into Hebrew. However, it is not the translation of a single work from cover to cover, but rather the adaptation of fragments originating in different Arabic sources, as several scholars have shown (Steinschneider 1864; Millás Vallicrosa 1952; Romano 1992; Rubio 2000). Bar Ḥiyya himself says towards the end of the introduction that he did not compose the work *motu proprio*, but rather at the request of the sages of "France" (Ṣarfat):

> I did not enter [this task] of my own will, for my own glory. Rather, many among the great in my generation, whose advice I am obliged to take, have urged me to do it, because there was not a single book about these sciences in the whole land of Ṣarfat written in Hebrew. And according to their indication, I translated them [the sciences] from the Arabic books [*mi-sifre Išma'el*] into Hebrew [*lešon ha-qodeš*] according to my ability.
>
> Millás Vallicrosa 1952, 10[7]

The introduction to *The Foundations of Intelligence* revolves around the exegesis of the three biblical passages, which are cited at the very beginning of the work:

> It is written: "This is what the Lord says: 'Let not the wise man boast of his wisdom (*ḥoḵmah*) or the strong man boast of his strength (*geburah*) or the rich man boast of his riches (*'ošer*), but let him who boasts boast about this: that he understands (*haskel*) and knows (*yeda'*) me, that I am the Lord, who exercises kindness (*ḥesed*), justice (*mišpat*) and righteousness (*ṣedaqah*) on earth, for in these I delight' (Jer. 9:23-24). It is also written: "The fear of the Lord is the beginning of wisdom' (Prov. 9:10) and "The fear of the Lord, that is wisdom" (Job 28:28).
>
> Millás Vallicrosa 1952, 10 Hebrew text

This way of opening the work is reminiscent of the rabbinic literary form of the *petiḥah* or *petiḥta*, a homiletic introduction to the weekly reading from the Torah that links two biblical verses that do not seem to be related at first sight, the remote verse, cited at the beginning, and the close verse, which is the opening verse of the weekly reading of the Torah in the synagogal service (Stern 1994, 159). The virtuosity of the exegete is shown in his ability to bridge the distance and sort out any apparent opposition between the two verses; the wider the distance, the higher the skill displayed in the homily. Despite some marked differences with the rabbinic *petiḥta,* our proem takes three biblical verses as the point of departure, and works out the apparent contradictions expressed in them, to bridge the distance between the verses and the taxonomy of sciences that will follow in the rest of the work. In a way, we could consider it some sort of philosophical *petiḥta*, that bridges the distance between the biblical text and the philosophical classification of the sciences. As we have mentioned, Abraham bar Ḥiyya is a pioneer in the composition of philosophical and scientific works in Hebrew; it is not surprising that he would take inspiration in the previously existing repertoire of rabbinic literary forms.

The opening biblical passage from Jeremiah entails an apparent contradiction, since it begins admonishing the wise man not to boast of his wisdom, and then it commands him to boast of his understanding and knowledge of God. Bar Ḥiyya proceeds to analyze the meaning of the verses, in order to explain away this apparent inconsistency. He indicates in the first place that the word "wisdom" (*ḥoḵmah*) is employed in two different senses: as theoretical wisdom, or wisdom per se (*ḥoḵmah mamaš*) and practical wisdom (*ḥoḵmat ha-'ommanut we-ha-malaḵut*). Abraham bar Ḥiyya says that humans acquire wisdom (both theoretical and practical) through the power of their soul. God endowed humans with three different "souls" or "spiritual faculties", citing the usual ones: vegetative, animal and spiritual (he is aware of the difference of opinion between Platonists and Aristotelians on this regard, but he does not consider it relevant for the purposes of his discussion here).

Each of the three souls or faculties has two sort of qualities, one higher than the other. In the case of vegetative and animal souls, Abraham bar Ḥiyya calls the "lower" qualities "bad qualities", and the "higher" qualities he calls them "good". In the case of the rational soul, he speaks of two kinds of good qualities, upper and lower. The lower kind of good qualities of the rational soul has the task

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of guiding the other two souls, so that they might be useful for the body, and help preserve the body and make it accomplish whatever is necessary for mundane life. The higher kind of good qualities of the rational soul has the task of organizing the rational soul itself, and of watching over all of the spiritual faculties of man, so that he will acquire merit for the life in the world to come. This higher kind of good qualities have a contemplative dimension to them as well: "thanks to this kind of qualities, the soul can contemplate all the wondrous and sublime things". This sort of Plotinian "double movement" of each of the souls or faculties of the soul is indicated in the verses from Jeremiah: "Let not the wise man boast of his wisdom" means "let not man boast of the qualities of his rational soul by means of which he rules over the powers of his body". "Let not the strong man boast of his strength" means "let not man boast of the good qualities of his animal soul". "Let not the rich man boast of his riches" means "let not man boast of the good qualities of his vegetative soul". All these qualities refer to the body, and to life in this lower world. However, one can boast of the "understanding" (*haskel*) which is the higher quality of the rational soul, and by means of which the rational soul governs itself and contemplates the upper world.

At this point, the text introduces the "fear of God" mentioned in the opening citations from Prov. 9:10 and Job 28:28. Humans cannot be proud of their understanding (*haskel*) if it is not preceded by the fear of God. The acquisition of wisdom through purely human means, is considered as going astray: "The beginning of wisdom is the fear of God" is the biblical text adduced in this respect. First, one must acquire fear of God, and then one should study the Law, and the rest of the sciences.

This is a pivotal point in Bar Ḥiyya exegetical introduction. Immediately after the reference to the fear of God, he says that in what preceded, he has provided an explanation of the verses in Jeremiah according to their immediate, "literal" meaning (*ka-dereḵ pašuṭ*[8]), not according to the more sophisticated or refined meaning (*meduqdaq*[9]) (Millás Vallicrosa 1952, 7 Hebrew text). According to the most immediate meaning, wisdom, inasmuch as it is a quality of the rational soul, is superior to strength, which is a quality of the animal soul, and strength is superior to wealth, which is a quality of the vegetative soul. If the wise man cannot boast in his wisdom, it follows even with more reason that the strong man cannot boast in his strength, nor the wealthy man in his wealth, since strength and wealth are inferior to wisdom.

However, Abraham bar Ḥiyya tells us that according to a more refined interpretation, the verses in Jeremiah do not refer to qualities of the different souls, or faculties of the soul, but they refer only to the rational soul, to different levels or degrees within the higher quality of the rational soul:

> At first, man acquires wisdom, and when he has acquired much of it, and he is fortified by it, he is called strong. And when he overflows this degree, he is called wealthy, and when he reaches the depth of wisdom, he is called understanding (*maskil*). And the crown which is on top of these sciences, and the tower (*migdal*) which is built upon them is the knowledge of God (*da'at Elohim*), and this is the only thing man can boast of.
>
> Millás Vallicrosa 1952, 8[10]

By changing the field of application, he is also proposing a reversal of the hierarchy: whereas according to the immediate, "literal" explanation, wisdom is superior to strength, and strength to wealth, according to this sophisticated interpretation, in the upper layer of the virtue of the rational soul, it is the other way around: wealth is superior to strength, and strength is superior to wisdom.

The hierarchy of the sciences acquired by the higher quality of the rational soul is, thus, the following, in ascending order according to the excellence of their goal: wisdom, strength, wealth, understanding. At the end of his introduction, Abraham bar Ḥiyya explicitly identifies each of

these four elements with the four sciences cultivated by the sages of this world, and he calls them the 4 "foundations" (*yesodim*): "wisdom" stands for arithmetic, geometry, music, astronomy, logic; "strength" stands for the physical sciences; "wealth" stands for the human and political sciences; and "understanding" stands for metaphysics. The biblical terms are equated with the different scientific and philosophical domains, bridging the gap between the opening remote verses and the closer matter at hand of this sort of homiletic introduction, or pseudo-*petiḥta*. As Abraham Melamed has noted, in the wake of Abraham bar Ḥiyya, the exegesis of the cited verses from the book of Jeremiah became a *locus classicus* of medieval Jewish philosophy, developed by a long line of thinkers that includes figures such as Maimonides, Falaquera, Crescas, Albo, and Abravanel (Melamed 1985).

Up until here, Abraham bar Ḥiyya says, reaches the part of his work about the "foundations of intelligence" (*yesode ha-tebunah*). As for the second part of the work, about the "tower of faith" (*migdal ha-ʾemunah*), which is built upon the foundations, he leaves it for later. Unfortunately, it seems that he never finished the work; in any case, the remainder of the work has not been preserved.

From a theoretical perspective, the fear of God plays an important role in Abraham bar Ḥiyya's architecture of the sciences, as it is the point of departure for any acquisition of knowledge that is worthwhile and legitimate (one that can make humans proud). From a more practical point of view, we have a document that shows how Bar Ḥiyya mobilizes the notion of the fear of God in a very specific intervention: a letter that he addressed to the rabbi of the community of Barcelona, Judah bar Barzillai of Barcelona, at some point during the first quarter of the twelfth century CE (Rodríguez-Arribas 2021; Rodríguez-Arribas and Geula 2021)[11]. At that time, a Jewish wedding had to be postponed in Barcelona due to an unexpected death in the community and the burial duties that it entailed. The postponement of the wedding made it fall at an hour considered unpropitious according to astrological criteria. One of the attendees, probably a prominent member of the community, pushed to perform the wedding immediately, regardless of the hour, arguing that astrology is a "consultation of the Chaldeans" opposed to Jewish law, whereas others (among them, the bridegroom himself) proposed to wait for a more auspicious moment. The former opinion prevailed, and the wedding took place without further delays. In the aftermath of the events, Bar Ḥiyya advocated in his letter for the legitimacy of the art of astrology, with an important caveat: it should always be accompanied by the "fear of Heaven". As he puts it in one of the many passages that refer to the fear of Heaven in his letter:

> The wicked sages of the gentile nations of the world have no fear of Heaven and they say that the influence of the stars is absolute and complete […]. By contrast, the faithful sages of Israel, whom God strengthened with the fear of Heaven […] say that the influence of the stars and the zodiac signs is not complete and that they are not allowed to cause benefit or harm knowingly and of their own free will. Rather, everything depends on [God's] word and commandment, and every time God, blessed be He, wishes, He removes the rule [of the stars] and modifies their decree.
>
> Rodríguez-Arribas and Geula 2021, 238

The fear of God, which appears at a pivotal point in the introduction to Bar Ḥiyya's encyclopedia, as well as in several instances in his letter in defense of astrology, is characterized as the basic and indispensable requirement for the Jew to safely undertake the study of the sciences, and to discern the limits to their applicability (such as in the case of astrology). Without it, the Jewish student would find himself in danger of falling into heterodoxy and contravening the religious law.

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3 The El Escorial Manuscript of al-Fārābī's *Enumeration of the Sciences*

The text of al-Fārābī's *Enumeration of the Sciences* is preserved in several manuscripts, but to my knowledge no critical edition has been published so far. There are several editions of the complete text (Amin 1931; González Palencia 1932; Mansour 1991; Boumalham 1996), and a partial critical edition of the fifth chapter of *Iḥṣāʾ* (Mahdi 2001). Most recently, the text has been published by Amor Cherni in a very useful edition accompanied by a French translation; however, Cherni's edition is not based on manuscript work, but on previous editions (Cherni 2015, 30-33).

One of the extant manuscripts of al-Fārābī's *Enumeration of the Sciences* is preserved in the library of El Escorial (Spain), in a volume that also contains, copied in the same Maghrebi script, a small treatise on logic by Abū Salt of Denia (El Escorial, Arabic ms. 646). According to the date provided in the manuscript, it was copied in 1310 CE. The manuscript from El Escorial was edited by Ángel González Palencia, and it includes at the end of the text an epilogue, clearly marked as not belonging to the original Farabian text (*faṣl min ghayr hadha'l-kitāb*), which is of interest to us, because it offers advice to those who embark in the study of the sciences that strongly resonates with Bar Ḥiyya's prologue to *The Foundations of Intelligence*. As far as I have been able to ascertain, this passage is not found in the other manuscripts of al-Fārābī's work.

The passage reads as follows:

> It is recommended to the student of science not to condemn what he is ignorant of [regarding what is contained in this book], for that would be proof of his imperfection and of the fact that he speaks without knowledge [of what he is talking about]; let him not boast of what he knows, because that would erase the virtue of his knowledge, and he would merit the hatred of the Giver of his gift; let him not envy those above him with envy that would make him flawed, and not disdain those below him, for he once was in the same situation of having to learn what he knows; let him not hide (*yaktumu*) what he knows, because then he and the ignorant will come to be on the same station, since both of them would be useless for knowledge and would not disseminate it (*lā muẓhirīn lahu*); let him not speak about a science before having mastered it, because he would be debased; let him not search a worldly aim with his science, for he would turn the most excellent into the most vile; and let him practice the fear of God (*taqwā Allāh*), may He be exalted and noble, in secret and in public (*fī sirrihi wa-jahrihi*), for this is the ornament of the wise and his jewel. And one must put trust in God.
>
> González Palencia 1932, 107-108[12]

Despite the differences between Abraham bar Ḥiyya's elaborate homiletical prologue and this short post-script that accompanies the Andalusian or Maghrebi manuscript copy of al-Fārābī's *Enumeration of the Sciences* preserved in El Escorial, there are also striking resonances between them. Both emphasize that the conditions to productively engage in the study of the different sciences are not so much epistemological, but rather related to moral qualities. The unknown author of the post-script enjoins the reader to not condemn what one does not know, not to boast of what he knows, not to envy those who know more, not to despise those who know less, not to dissimulate or hide his knowledge, not to rush to speak about a science one has not yet mastered, not to pursue worldly goals with his science, and finally, as an all-encompassing recommendation that seems to summarize all this, "to practice the fear of God in secret and in public".

The notion of fear of God (*taqwā*) is qurʾānic, just like its homologue "*yiraʾt ha-Šem*" is biblical. It is in fact "one of the most frequently mentioned religious concepts in the Qurʾān, having entered into the world of Islam upon the very first appearance of the angel Gabriel to the Prophet" (Lewisohn

2012). Lewisohn is referring to sura 96 (The Clot), which is traditionally considered to have been the first revelation of Gabriel to the Prophet of Islam, and which explicitly mentions *taqwā*: "Have you seen him who tries to prevent a servant when he would pray? Have you considered if such a one has any divine guidance or enjoins [others] to piety (*taqwā*)?" (Q 96:9-12).

The Arabic word "*taqwā*" is a verbal noun derived from the root w-q-y, which means "to protect something against something else". Words derived from this root are frequent in the qurʾānic text, most commonly in the form VIII of the verb, "ittaqā". In pre-Islamic literature, this form did not particularly have any religious connotations and it referred primarily to physical protection: to place something or someone like a barrier or shield between oneself and a danger (Izutsu 1964, 234). As examples of this usage, Izutsu cites a verse from the *muʿallaqa* of ʿAntara: "when they [my comrades] put me (*yattaqūn bī*) between themselves and the spears of the enemies, I did not flinch at all" (as cited in Izutsu 1964, 260). As Izutsu paraphrases the passage, "when my friends pushed me ahead in front of them so that they might protect themselves behind me, I myself being their shield, I did not flinch at all". Occasionally the pre-Islamic usage of the term refers not to physical, but to moral or ethical protection, as in the couplet of ʿAmr b. al-Ahtam: "every man of a noble nature guards (*yattaqī*) against blame with hospitality" (as cited in Izutsu 1964, 260).

In its qurʾānic usage, there is a shift in the use of the term from physical to spiritual protection (Ohlander 1989, 146). The early and middle Meccan suras tend to use "*taqwā*" and its cognates in eschatological contexts to refer to the specific emotion of fear provoked by the awareness of the imminent end of days. In this sense, it means "to guard oneself against the imminent danger of divine chastisement by putting between it and one's soul a protective shield of pious obedience and belief" (Izutsu 1964, 263). An example of this usage is found in sura 92 (The Night): "Therefore do I warn you of a Fire blazing fiercely; none shall reach it but those most unfortunate ones who give the lie to Truth and turn their backs. But those most devoted to God (*al-atqā*) shall be removed far from it…" (Q 92:14-17).

Although the shift is not rigid and clear-cut, later suras seem to consider "*taqwā*" more like a value connected to mainstream religious piety. In this later use, the "*muttaqī*" or God-fearer is simply a Muslim, a believer, as opposed to an infidel. An example of this later usage can be seen in the opening of sura 2 (The Cow): "This is the Book! There is no doubt about it – a guide for those mindful of Allāh (*muttaqīn*), who believe in the unseen, establish prayer, and donate from what We have provided for them, and who believe in what has been revealed to you, O Prophet, and what was revealed before you, and have sure faith in the hereafter" (Q 2: 2-4). As Ohlander puts it, "fear is no longer simply a psychological state brought on by eschatological warnings, but it is rather cast as a moral virtue to be cultivated by believers" (Ohlander 1989, 149). In the Medinan period, "godfearing is invoked in a wide range of settings. No longer is it always specifically connected with eschatological concerns but it is broadened to include legal, moral, cultic, spiritual, and even rather quotidian concerns" (Ohlander 1989, 150).

A close analogue to the biblical expression "fear of the Lord is the beginning of wisdom" (Prov. 9:10) is also found in Islamic sources, such as the famous qurʾānic commentary of Ibn Kathīr (on Q 2:269): "The best provision is mindfulness (*taqwā*) of Allāh, and the foundation of wisdom (*rās al-ḥikma*) is the fear of God (*makhāfat Allāh*)" (Ibn Kathīr 1998, I, 539). While this expression is not cited explicitly in our text, the use of the term "*taqwā*" may well have evoked it in the mind of the reader.

There is one significant difference between the postscript to al-Fārābī's work and Bar Hiyya's introduction to his classification of the sciences, which is the former's explicit and continuous references to dissimulation. The postscript advises the student of science not to hide (*yaktumu*) what he knows, because that would prevent the dissemination of science (*lā muẓhirīn lahu*). The final recommendation picks up this topic again, advising the practice of the fear of God (*taqwā*) in secret and in public (*fī sirrihi wa-jahrihi*). Whereas the postscript enjoins the reader to practice

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taqwā, it admonishes against the practice of *taqīya*, another word derived from the root w-q-y, and which is commonly translated as "prudent dissimulation of one's religious belief", mostly in Šīʿī contexts. In this text, the reader is warned not to practice what we may call "philosophical *taqīya*", or dissimulation of one's knowledge, something that may have been common among the students of philosophy, in order to avoid the association with scandal and heterodoxy. This topic of dissimulation is absent from Bar Ḥiyya's introduction. We do not know when the Andalusi/Maghrebi postscript to Fārābī's *Iḥṣāʾ* was composed, but the manuscript which preserves it was copied in 1310 CE, whereas Bar Ḥiyya's encyclopedia was produced at some point before 1140 CE (the estimated date of the author's demise). I would suggest that the issue of philosophical dissimulation may have become more prevalent with the passage of time, which would explain its absence in the earlier text, and its prominence in the later one

Concluding Remarks

Bar Ḥiyya's introduction to his classification of the sciences and the anonymous Andalusian (or perhaps Maghrebi) author of the epilogue to al-Fārābī's classification of the sciences share a common ethos in their approach to the study of the "Greek" sciences: they must be accompanied by the fear of God. Of course, this is not something unexpected in the medieval period, quite the contrary, but it is significant that the Andalusian commitment to the curriculum of the sciences, understood in the Aristotelian-Farabian sense, is in both cases accompanied by the warning that it should always go hand in hand with the fear of God. As we have seen, Greek-inflected *falsafa*, and particularly the name of al-Fārābī, were tinged with scandal in al-Andalus. Given the wide dissemination of al-Fārābī's classification of the sciences in al-Andalus starting in the eleventh century CE, and its manifest influence on other encyclopedic systems, such as the one presented in Bar Ḥiyya's work, I find it likely that al-Fārābī's heterodox reputation may have compelled those adhering to the philosophical curriculum of the sciences to emphasize the conditions of its compatibility with the proper understanding of revealed religion, both among Muslims and among Jews.

Biographic Note

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Notes

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[2] The Aristotelian-Farabian tradition of classification of the sciences is not the only one that circulated in the Islamicate world. Worthy of mention is another encyclopedic tradition, that of the Brethren of Purity, whose *Epistles* are usually dated to mid-tenth century CE Basra (Iraq). Described as a "sui generis amalgam of gnosis, *Weltanschauung* and classification of sciences, of philosophy and religion (with Shīʿī or Ismāʿīlī leanings)" (Biesterfeldt 2000, 91), it circulated widely in the Middle Ages, reaching al-Andalus in the eleventh century CE. This classification of the sciences was also strongly associated with heterodoxy. Although it incorporates "certain elements and sequences of traditional classifications (…) [its] tendency to 'mix up' the genres and the hierarchies is prevalent" (Biesterfeldt 2000, 92). As the tradition of the Brethren of Purity constitutes a distinct trend, well-differentiated from the Aristotelian-Farabian one, I will not deal with it here.

[3] Al-Fārābī's works are cited in *The Aim of the Wise* (*Ghāyat al-ḥakīm*), a magical-astrological work composed in al-Andalus, whose authorship and date of composition are debated, but which some scholars date between 957 and 960 CE. The author of *Ghāyat al-ḥakīm* perused several works by al-Fārābī, reproducing long passages from them, particularly from *Fuṣūl muntazaʿa* and *al-Madīna al-fāḍila*. However, as I have mentioned, the dating of *Ghāyat al-ḥakīm* is unclear, with some scholars dating it towards the middle of the tenth century CE (Fierro 1996); and others dating it later, towards the mid-eleventh century CE (Ramón Guerrero 1991a).

[4] The passage, in English translation, is cited in full by Forcada, 2006, 299-301.

[5] The text of the introduction is only preserved in one manuscript, Parma ms. 1170, fols. 1-6r, discovered and first published by Steinschneider (1864). The extant sections of the first part are found in the following manuscripts: Munich Hebrew ms. 36, fols. 203v-209; Oxford Bodleian Hebrew ms. 1268, fols. 118ff.; Berlin Hebrew ms. 79, fols. 121r-136v; and Vatican Hebrew ms. 400, fols. 66r-75r. All extant parts of the text have been edited by Millás Vallicrosa (1952). Rubio has provided a very useful discussion of this introduction and its contents (2000). My analysis will differ from hers in the attention paid to the literary form of the introduction, and the shifts in the text that move from a "literal" into a more "refined" interpretation of the opening biblical verses.

[6] Hebrew text, translation into English is mine.

[7] Hebrew text, translation into English is mine.

[8] I am well aware that the translation of "*ka-dereḵ pašuṭ*" as "literal" is problematic. As Raphael Loewe has argued, *pešaṭ* was "not necessarily the natural meaning of the biblical text, but rather the meaning traditionally accepted as authoritative or at any rate familiar, however far from the primary sense of the words it might be" (Loewe 1964, 167).

[9] I take issue with Millás Vallicrosa's translation of "*meduqdaq*" into Spanish as "maliciously" (maliciosamente) (Millás Vallicrosa 1952, 32 Spanish text).

[10] Hebrew text, translation into English is mine.

[11] I would like to thank the anonymous reviewer who kindly pointed out to me the fact that this letter makes extensive use of the notion of the "fear of Heaven".

[12] Arabic text, English translation is mine.

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