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Mašhad, Kitābhāna-i Āsitān-i Quds-i Raḍawī 300, f. 1v; Paris, Bibliothèque nationale de France, grec 1853, f. 186v

How to Teach Things with Words: Al-Fārābī, Māyin’s Doubt, and the Transmission of Knowledge

Nadja Germann

Abstract

In one way or another, every student of philosophy has probably at least once hit upon the so-called “Meno paradox”, a puzzle originally raised in Plato’s *Meno*, which is usually considered as the latter’s attempt to question the possibility of inquiry. Like many philosophers before and after him, Abū Naṣr al-Fārābī (d. 950) engaged with this paradox. Among other places, he explicitly addresses it in his *Kitāb al-burhān* (*On Demonstration*), his paraphrase of Aristotle’s *Posterior Analytics*. Given this context, it comes as no surprise that references to Plato are absent, since the general lines of his approach are obviously determined by his reference text. Yet, if one examines “Māyin’s doubt”, as he dubs the dilemma, more closely, several peculiarities come to the fore. For one, the terse allusions to teaching and learning, which Aristotle makes at the beginning of his book, turn into a fully-fledged conceptual framework within which Fārābī discusses the puzzle. Moreover, the entire section of the *Burhān* dedicated to this problem is distinguished by the strong emphasis Fārābī puts on the use of language within the context of teaching and learning – an emphasis that lacks a parallel in the *Posterior Analytics*. Thus, it soon becomes clear that Māyin’s doubt is not simply a summary of Meno’s puzzle as it appears in Aristotle’s work. Rather it is an engagement with the latter designed to answer contemporary questions. But what are the questions Fārābī’s discussion of the paradox is meant to answer? And what answers does he give to them?

Meno’s Paradox

Every student of philosophy has, in one way or other, probably come across Meno’s paradox. It first enters the history of philosophy in Plato’s eponymous dialogue, the *Meno*, where Socrates casts it in the following form:

Quote 1: Do you [Meno] see what an eristic argument you’re spinning, that a person turns out not to be able to search either for what he knows or for what he doesn’t know? For he wouldn’t be searching for what he knows, since he knows it, and someone like that, at least, has no need to search; nor would he be searching for what he doesn’t know, since in that case he doesn’t even know what to search for.¹

This is a fairly succinct way of recapping the paradox. As it is presented by Socrates – and as most scholars nowadays understand it – it is a paradox concerning inquiry, concerning the quest for new knowledge.² In a way, Plato’s most avid student, Aristotle, already interpreted it in this fashion.

¹ Plat., *Men.* 80E1-5; English translation: D. Sedley – A. Long, *Plato: Meno and Phaedo*, Cambridge U.P., Cambridge - New York 2011, p. 14. As is well known, the problem itself is raised in the dialogue by Socrates’s interlocutor, Meno, who seeks to challenge Socrates’s epistemological standards. Socrates reformulates the paradox in the manner quoted above as an opening to his defense, which builds on the theory of recollection.

² For a study of the history of the paradox in Antiquity, see G. Fine, *The Possibility of Inquiry: Meno’s Paradox from Socrates to Sextus*, OUP, Oxford 2014.

However, if one looks up his explicit reference to the paradox in the *Posterior Analytics* (A 1, 71 a 29),³ the result is somewhat baffling: what exactly does Aristotle mean by “the puzzle in the *Meno*”, as he calls it? What, according to Aristotle, is it a puzzle about, and how does he actually try to solve it? Even contemporary research is far from unanimous about how to explain Aristotle’s approach to the dilemma.⁴

Perhaps Abū Naṣr al-Fārābī (d. 950), working in tenth-century Baghdad, found himself in a similar situation as he was composing his epitome of Aristotle’s *Posterior Analytics*, the *Kitāb al-burhān*.⁵ In contrast to modern scholars, in his engagement with A 1, he does not at all seem to be concerned about the relation between Aristotle’s take on the paradox and the way Plato originally had framed it in the *Meno*, which may be due to the fact that, so far as we know, Fārābī had only indirect and rather sketchy knowledge of Plato’s text.⁶ Thus, Fārābī’s *Meno* paradox is exclusively centered on Aristotle’s *Meno* paradox, albeit seen – as will become clear shortly – through a particular lens by Fārābī. Now, while Fārābī was obviously not interested in Plato’s *Meno* itself, what actually does reverberate throughout his approach to the problem in the *Burhān* is the beginning of his reference text, the *Posterior Analytics*, where Aristotle famously states:

Quote 2: All teaching and all intellectual learning come about from already existing knowledge.⁷

It appears that Fārābī took this opening line of the *Posterior Analytics* very seriously. For, the setting within which he tackles “Māyin’s doubt” (*tašakkuk Māyin*), as he refers to the paradox,⁸ is the context of teaching and learning, of *ta‘līm* and *ta‘allum*. More precisely, he deals with Māyin’s doubt in a section of his *Burhān* that, as a whole, is dedicated to the question of how knowledge can be acquired by a student through instruction by a teacher.⁹ This narrow

³ “Otherwise the puzzle in the *Meno* will result; for you will learn either nothing or what you know”, English translation: J. Barnes, *Aristotle’s Posterior Analytics*, Clarendon Press, Oxford 1975, p. 2.

⁴ In addition to Fine, *Possibility of Inquiry* (above, n. 2), cf. D. Bronstein, “Meno’s Paradox in *Posterior Analytics* 1.1”, *Oxford Studies in Ancient Philosophy* 38 (2010), pp. 115-141.

⁵ *Kitāb al-burhān*, ed. M. Fakhry, in *Al-Manṭiq ‘inda al-Fārābī*, vol. 4, Dār al-mašriq, Beirut 1987, pp. 19-96.

⁶ An overview of the Greek sources available in Arabic is offered by D. Gutas, “Greek Philosophical Texts in Arabic Translation”, in *Philosophy in the Islamic World*, Vol. 1: 8th-10th Centuries, ed. U. Rudolph – R. Hansberger – P. Adamson, Brill, Leiden - Boston 2017, pp. 121-35. Although Fārābī explicitly mentions the *Meno* in his *Falsafat Aflāṭun* (*Philosophy of Plato*), from his description of its contents it would appear that he did not have direct access to it.

⁷ *An. Po.* A 1, 71 a 1-2; trans. Barnes (above, n. 3), p. 1.

⁸ *Burhān* 5: 79 (the number before the colon refers to the section, the one after the colon to the page); Fārābī switches between the verbal form (*tašakkaka*) and the verbal noun (*tašakkuk*):

وقد تشكك مآين...؛ وتشكك مآين هو هذا...؛ فإن تشكك مآين

Fārābī deals with *Meno*’s puzzle at several different places in his oeuvre: In addition to the *Burhān*, it is discussed in the *Falsafat Aflāṭun* (see above, n. 6) and in the *Šarḥ al-Qiyās* (*Commentary on the Prior Analytics*). D. Black (“Al-Fārābī on *Meno*’s Paradox”, in P. Adamson (ed.), *In the Age of al-Fārābī: Arabic Philosophy in the Fourth/Tenth Century*, The Warburg Institute - Nino Aragno Editore, London - Torino 2008, pp. 15-34) has studied the versions in *Burhān* and *Falsafat Aflāṭun*, as well as the one in the *Kitāb ḡam‘ bayna rāyay al-ḥakīmayn Aflātūn al-ilāhī wa-Aristūṭālīs* (*On the Harmony between the Views of the Two Sages, the Divine Plato and Aristotle*), a text, however, whose authorship remains dubious.

⁹ This section – the last one of the *Burhān* – is introduced with the following words (*Burhān* 5: 77): “Let us now talk about teaching (*ta‘līm*).” Fārābī then distinguishes different subspecies of teaching and concludes (*ibid.*, 5: 78): “We now wish to talk about [the kind of] teaching from which science (*ilm*) occurs”, thus clarifying which type of teaching he was interested in.

focus on a scholastic setting neatly comes to the fore in the short version of Fārābī's Meno paradox,¹⁰ which – within the respective section of the *Burbān* – marks the transition from more general reflections about teaching and learning to the problem of the transmission of scientific knowledge in particular:

Quote 3: Thus, Meno doubted, until he employed a syllogism establishing with necessity that something the transmission of which is aimed for by teaching can already be known by a student in a way, while he is ignorant of it in another way.¹¹

It is worth noting that in this section, which revolves around Māyin's doubt, Fārābī addresses two major problems at the same time. The first problem that he addresses – and this initially seems to be quite traditional and in perfect harmony with his reference text – involves giving an account of the acquisition of new knowledge; more precisely, he tries to explain the mechanisms involved in learning something one did not know beforehand, a process he distinguishes from simply recalling something:

Quote 4: Another kind of discourse (namely, the one Fārābī envisages in this section on teaching) aims to bring about in the mind of the listener a knowledge he did not previously have, neither in perfect actuality, nor in proximate potentiality.¹²

Although Fārābī does not mention it explicitly, this characterization of the novelty of knowledge rules out, among other things, recourse to Plato's theory of recollection as an explanation of knowledge acquisition – which is obviously an important factor in Plato's own solution to his version of the paradox.¹³

Now let us turn to the second problem that Fārābī tackles in this section of the *Burbān*, a problem which has largely been overlooked by research. Not only in the last two quotations but throughout the entire passage, Fārābī puts a remarkably strong emphasis on teaching and learning, which he understands in a very distinctive way. Whether through oral instruction in a classroom or by virtue of texts, such as Aristotle's oeuvre, teaching and learning for Fārābī obviously entails the usage of language; it is based on discourse between human beings. In his own words:

Quote 5: Teaching, now, is a discourse (*muḥāṭaba*) aiming at the knowledge of something that was not known previously.¹⁴

¹⁰ Fārābī verbalizes the Meno paradox twice: first, to introduce it (which is the passage cited in quote 3) and, second – immediately following this introduction – to spell it out in greater detail and offer a diagnosis of why, in his view, Meno fell into this doubt (*Burbān* 5: 79).

¹¹ *Burbān* 5: 79: وقد تشكك ماين حتى استعمل قياساً يلزم عنه ضرورة أن يكون الشيء الذي يقصد تعريفه بالتعليم قد حصلت للمتعلم به معرفة من قبل أن يتعلمه بوجه ما، وأن يكون قد جهله بوجه آخر. Wherever Fārābī employs the generic masculine, I do so too in my translation; everywhere else I apply the generic feminine.

¹² *Burbān* 5: 79: ومن المخاطبة صنف يقصد به أن يحصل في ذهن السامع معرفة لم تكن له من قبل، لا بالفعل التام ولا بالقوة القريبة.

¹³ See above, n. 1.

¹⁴ *Burbān* 5: 79: والتعليم هو مخاطبة يراد بها معرفة شيء قد كان يجهل من قبل (cf. also quote 4 above, where Fārābī distinguishes between different types of discourse).

Hence, we can conclude that, in his *Burbān*, Fārābī is interested neither in learning by experience (that is, learning empirically) nor in non-discursive – e.g., supernatural – methods of knowledge acquisition such as illumination, inspiration, or the like (that is, the attainment of something like prophetic knowledge, miraculously infused into one’s mind).¹⁵ Fārābī’s exclusive focus is on learning something new through oral or written discourse designed to provide instruction.¹⁶

Interlude

Let us pause here for an instant and ponder the nature of Fārābī’s project, before we delve into his discussion of Māyīn’s doubt. Anyone who is familiar with Aristotle and his late ancient Neoplatonic commentators and who has studied the reception of the *Posterior Analytics* a little will admit that the specific orientation Fārābī gives here to Meno’s puzzle – aiming to articulate a fully-fledged theory of instruction – is fairly peculiar. It immediately gives rise to the following question: Why does Fārābī in a book designed as an explanation of Aristotle’s *Posterior Analytics* look at the paradox exclusively from this particular angle? While this focus might, at first sight, appear somewhat surprising, upon closer consideration of Fārābī’s historical-cultural background it turns out to be rather logical. For one, we need to take into account his connections with the school of Baghdad Aristotelians.¹⁷ According to the available sources, Fārābī taught there himself, probably for several years, and it is quite likely that he wrote the *Burbān* specifically for teaching purposes related to this school.

Moreover, if we regard the intellectual culture of the ninth and tenth centuries more generally, it is obvious that – at least among the elite – the acquisition of knowledge, primarily religious knowledge, was strongly endorsed.¹⁸ From early on, circles of learning had emerged and increasingly crystallized into formal institutions, such as the *kuttāb*, the grammar and Quran schools for children, or the *madāris*, the higher schools of learning for legal and religious scholars.¹⁹ As a consequence, both mainstream intellectual culture and the Alexandrian heritage

¹⁵ Whereas his exclusion of recollection remains indirect, Fārābī explicitly states that the sort of teaching and learning he is going to scrutinize in this section does not encompass any form of divine intervention (*Burbān* 5: 82): “Thus, we say first: It is appropriate [to exclude] inspiration (*ilḥām*) or information (*ihṭār*) of the mind (*bāl*) and [instead to focus on] knowledge (*maʿrifa*) that comes about in the mind (*dībn*) of human beings in addition to the knowledge (*maʿrifa*) which preceded – and this is [what I] called teaching. This is in lieu of what people believe, namely, that this happens by virtue of some divine activity (*fīʾl*). Now, this is also usually called teaching, however, it is not the kind of teaching we are currently discussing.” In other words, without ruling out the possibility of divine inspiration as such, the knowledge Fārābī is interested in is one that is acquired exclusively by natural, human means and which is described in post-Avicennian writings as *muktasab* (acquired) knowledge or using cognate terms.

¹⁶ Note that, in what follows, I will usually refer to teaching in the classroom. However, this is only shorthand; it is not intended to rule out other means of discourse-based knowledge transmission between teacher and student.

¹⁷ For approximately a century, this school, founded by Abū Bīṣr Matā in the first half of the tenth century, was the intellectual center of the *falāsifa* – the Greek-inspired philosophers – in Baghdad. They considered themselves successors of the Alexandrian school of Neoplatonists and just like them taught the *Corpus Aristotelicum* (translated into Arabic) by means of commentaries, paraphrases, etc. For further details and literature, see G. Endress - C. Ferrari, “The Baghdad Aristotelians”, in *Philosophy in the Islamic World* (above, n. 6), pp. 421-525.

¹⁸ For an impressive picture of the high esteem in which knowledge (*ʿilm*) was held in the Islamic world across the centuries, it is still useful to consult F. Rosenthal, *Knowledge Triumphant: The Concept of Knowledge in Medieval Islam*, Brill, Leiden - Boston 2007. More recently, see also the papers collected in S. Günther (ed.), *Knowledge and Education in Classical Islam: Religious Learning between Continuity and Change*, 2 vols., Brill, Leiden - Boston 2020.

¹⁹ See, for instance, J.M. Landau, “*Kuttāb*”, in *Encyclopaedia of Islam*, Second Edition (= *EI²*), ed. P. Bearman et al., Brill Online, <http://dx.doi.org/10.1163/1573-3912_islam_SIM_4594> (accessed on February 14, 2021); J. Pedersen, “*Masdjid*”,

fostered by the Baghdad Aristotelians cherished the pursuit of knowledge. At the same time, within both spheres, the classroom presented itself as the natural place – and teaching as the proper method – to engage in this quest.²⁰ Hence, the least we can say is that with his reformulation of Meno's puzzle as a problem situated in the classroom, Fārābī was responding to the reality of his time: If one wanted to acquire knowledge, regardless of the precise topic or field, the obvious thing to do was to join a school or circle and study with teachers on the basis of specific, authoritative books.²¹ In the case of the Baghdad Aristotelians, these authoritative books were the writings of Aristotle, and the method of instruction was the commentary or paraphrase – like Fārābī's *Burhān*.²²

Yet, in such a setting, the notion of “learning something new” – with the stress on “new” – takes on a very peculiar meaning. Admittedly, from the perspective of the students, whatever they read in Aristotle and was explained to them by their teachers was, by and large, new to them. However, it was by no means new knowledge in the absolute sense of something “never before heard” or “discovered just now.” Quite the opposite. We are talking here about a body of knowledge formed hundreds of years earlier and transmitted from one generation to the next – a feature, to be sure, not only of the Aristotelian tradition, but also of the mainstream intellectual culture in the age of Fārābī and, for that matter, of any scholarly tradition based on the study of authoritative books. Therefore, if, in the section on teaching and learning in the *Burhān*, Fārābī focuses on the acquisition of new knowledge, the novelty he has in mind exclusively concerns the individual students, and not the body of knowledge itself or the “older generation”, that is, those who have already been introduced to it and now act as teachers in turn. However, this feature of the kind of knowledge at issue has remarkable consequences for the scope of Fārābī's interpretation of the Meno paradox. Contrary to first appearances, his version is not formulated as a problem of inquiry, at least not of “inquiry” in the common sense of the term, but rather as a problem of transmission – of the transmission of an already-established body of knowledge.

Consequently, regardless of whether one takes Aristotle's *Posterior Analytics* itself to develop nothing other than a theory “of how an achieved body of knowledge should be presented and taught”,²³ the manner in which Fārābī approaches Māyin's doubt differs clearly from Aristotle's

in *Encyclopaedia of Islam*, First Edition, ed. M.T. Houtsma *et al.*, Brill Online, <http://dx.doi.org/10.1163/2214-871X_ei1_COM_0155> (accessed on February 14, 2021), particularly section “F. The Mosque as a School”; J. Pedersen – G. Makdisi, “*Madrasa*: I. The Institution in the Arabic, Persian and Turkish Lands”, in *EP*, <http://dx.doi.org/10.1163/1573-3912_islam_COM_0610> (accessed on Feb. 14, 2021); S. Günther, “Islamic Education, Its Culture, Content and Methods: An Introduction”, in *Knowledge and Education* (above, n. 18), pp. 1-39.

²⁰ I have studied the predominance of this method of knowledge acquisition and transmission over other ones in N. Germann, “Learning by Oneself: Ḥayy ibn Yaqzān, Autodidacticism, and the Autonomy of Reason”, in A. Speer – T. Jeschke (eds.), *Schüler und Meister*, W. de Gruyter, Berlin - New York 2016 (Miscellanea Mediaevalia 39), pp. 613-37.

²¹ That said, it is interesting to note how, not very long afterwards, Ibn Sīnā stylized his own process of knowledge acquisition in neat contrast to this general practice. Nonetheless, even though he sought in this way to make the point that there is no immediate need for a teacher and a classroom setting – provided the student is smart enough, as he himself was – in his own, quasi-autonomous education he still fell back on books. Hence, for him, too, the acquisition of knowledge took place via the medium of an established body of book knowledge and not by empirical means.

²² Within the framework of religious studies, by contrast, these authoritative texts were the Quran and the *ḥadīṯ* (the sayings of the Prophet Muhammad), but the methods of instructions were quite similar: exegesis, on top of memorizing key passages.

²³ Thus J. Barnes, “Aristotle's Theory of Demonstration”, in J. Barnes – M. Schofield – R. Sorabji (eds.), *Articles*

considerations in *Posterior Analytics* A 1. While Aristotle, from the perspective of the seeker of knowledge, cites Meno as he attempts to bring out his distinction between knowing universally and knowing simpliciter, Fārābī, from the perspective of the teacher, tackles the problem of how to succeed in eliciting, in someone else, science in the strict sense of the word (*‘ilm*, corresponding to the Greek ἐπιστήμη), i.e., of a hierarchically structured body of knowledge that is necessarily true, unchangeable, and cannot be otherwise.²⁴ In short, how can we teach science by means of words – of “discourse (*muhāṭaba*) and what takes its place”,²⁵ as Fārābī succinctly puts it? How can we transmit a fixed body of knowledge such that the students get to know or cognize its contents according to the standards of science?

Teaching and Learning in the Classroom

Having presented Māyīn’s doubt, Fārābī approaches its discussion by introducing his famous distinction between conceiving (*taṣawwur*) and assenting (*taṣdīq*):²⁶

Quote 6: Knowledge, however, is either conceiving (*taṣawwur*) or assenting (*taṣdīq*). Hence, if teaching aims at bringing about the concept of something, it is necessary that this thing in a way was [already] conceived previously, while another [mental] image (*ḥayāl*) of it is unknown. That to which assent is sought must necessarily [already] have somehow been assented to previously. Thus, if Meno had doubts, [it is because] he did not distinguish between conceiving and assenting.²⁷

This passage encapsulates in a nutshell Fārābī’s entire theory of teaching and learning. This theory, and particularly his solution to Meno’s puzzle, have already been studied,²⁸ so for our purposes a brief summary suffices. According to Fārābī, the point of departure for the acquisition of knowledge is *taṣawwur*: We first need to conceive of something (level of *taṣawwur*) and only

on Aristotle: 1. *Science*, Duckworth, London 1975, pp. 65-87, here p. 85. Among scholars of ancient philosophy, this reading of Aristotle’s *Posterior Analytics*, however, “has not gained wide acceptance”, see D. Bronstein, *Aristotle on Knowledge and Learning: The Posterior Analytics*, OUP, Oxford - New York 2016, p. 31.

²⁴ Fārābī’s ensemble of features distinguishing true, scientific knowledge has been studied by D. Black, “Knowledge (*‘ilm*) and Certitude (*yaqīn*) in al-Fārābī’s Epistemology”, *Arabic Sciences and Philosophy* 16 (2006), pp. 11-45. For literature on Aristotle’s Meno paradox, see n. 4 above.

²⁵ *Burhān* 5: 78; cited again with the rest of the sentence below, quote 7.

²⁶ There is a vivid debate about how to translate *taṣawwur* and *taṣdīq* appropriately. For a succinct overview, see J. Lameer, *Conception and Belief in Ṣadr al-Dīn al-Shīrāzī (ca 1571–1635): Al-Risāla fī l-taṣawwur wa-l-taṣdīq*, Iranian Institute of Philosophy, Tehran 2006, in part. pp. 5-18. Lameer convincingly argues that, for Fārābī, both *taṣawwur* and *taṣdīq* are, first and foremost, mental activities, which is why he suggests translating *taṣawwur* as “conception” and *taṣdīq* as “belief.” To some extent, I follow Lameer’s arguments, however, in order to avoid reification, wherever possible I fall back on verbal forms such as “conceiving” for *taṣawwur* and “assenting” (emphasizing the additional aspect of considering something as true) for *taṣdīq* in my own translations. It is generally doubted that the distinction between *taṣawwur* and *taṣdīq* was invented by Fārābī (see Lameer’s investigation of the origin of these two notions, *ibid.*, pp. 19-35, who is convinced of a Greek or Syriac antecedent; cf. particularly p. 24, despite n. 3). For the issues pursued in this paper, the problem of the origin of this distinction is irrelevant. However, as long as no source is discovered that precedes Fārābī and that already discriminates between *taṣawwur* and *taṣdīq* I will treat it as “his” invention.

²⁷ *Burhān* 5: 79: والمعرفة منها تصوّر ومنها تصديق، فإن كان يقصد بالتعليم تصوّر شيء، فينبغي أن يكون ذلك الشيء قد تصوّر قبل ذلك تصوّراً ما ويجعل له خيال آخر. والذي يقصد إيقاع التصديق به، فهو يلزم فيه أن يكون قد صدّق به من قبل تصديقاً ما. فإن تشكك ماين لم يفصل فيه بين التصوّر وبين التصديق.

²⁸ On the puzzle, see Black, “Meno’s Paradox” (above, n. 8); on Fārābī’s principles of teaching and learning, N. Germann, “How Do We Learn? Al-Fārābī’s Epistemology of Teaching”, in *Knowledge and Education* (above, n. 18), pp. 147-85.

subsequently, on the basis of concepts, can we develop epistemic attitudes toward them, can we believe that they are or obtain (level of *taṣdīq*).²⁹ To take an example: We first need to have a concept of the triangle, before we can learn and positively believe that every triangle is 2R. Fārābī is convinced that the same constellation prevails in the classroom. Students must first acquire concepts before they can develop epistemic attitudes of assent toward them, i.e., before they can come to hold that they are or obtain.³⁰ So far so good, but how is this theory suited to remedy Māyin's perplexity? And what exactly is Fārābī's Meno puzzled by in the end?

In order to get a better sense of Fārābī's precise target, let us briefly reconsider quote 3. There we are told that Meno "doubted whether something (*šay*) the transmission (*ta'rif*) of which is aimed for by teaching (*ta'līm*) can be learned by a student before [this latter] knows it in a way, while he is ignorant of it in another way." First of all, it immediately becomes clear that what Fārābī is interested in is indeed the acquisition of knowledge under the conditions of classroom teaching. Moreover, the phrasing shows that, in his solution, Fārābī will follow Aristotle, inasmuch as he will not investigate how one advances from zero knowledge (cognitive *tabula rasa*) to an epistemically higher level of insight. Instead, just as in his reference text, Fārābī will begin to unfurl his theory only at a later stage: The incipient student he has in mind already possesses some prior knowledge of the things under discussion.³¹ The nature of what he minimally presupposes for the acquisition of something new on the elementary level of *taṣawwūr* in a classroom setting is indicated in quote 6. On this account, it is necessary "that this thing in a way was [already] conceived (*tuṣwawwira*) previously, while another [mental] image (*ḥayāl*) of it is unknown." This is a striking statement, since here Fārābī explicitly identifies conceiving (*taṣawwūr*), at least at its lowest level, with having mental images (*ḥayāl*).³² Mental images, we can thus infer, contain all the data needed for the formation of scientifically productive concepts.³³

As previous research has shown, the teacher, falling back on this raw material, proceeds gradually. Prior to entering a Fārābī-style classroom, the students have, as inhabitants of the

²⁹ In a way, science – according to this (quite Aristotelian) understanding – can be described as a hierarchically structured system of all the propositions assented to.

³⁰ It is only this second stage that can amount to knowledge in the strict sense, i.e., in the sense of science (*ilm*) – contingent on how this assenting is grounded.

³¹ This is to say that Fārābī, just like his model Aristotle, entirely skips the initial phase of knowledge acquisition, the empirical level furnishing the raw material for scientific (or, as Aristotle put it, intellectual) learning. Note that in what follows I use the term "thing" in the same loose manner as Fārābī employs the corresponding terms *šay*' and *amr* here and throughout the text. Accordingly, this expression not only refers to individual substances, but to all sorts of properties, relations, events, etc. It can even signify something (*šay*) in one's mind.

³² In Fārābī's psychology, mental images are the result of sensory impressions (cf. also *Burhān* 5: 79: "Something is actually [in one's mind], when he sees a mental image [*ḥayāl*] of it that is impressed in his soul.") and stored in memory, so that they can be recalled. While, in some sense, they provide the raw material for intellectual cognition (see above, n. 31), they do not themselves belong to the sphere of intellect, and hence of scientific knowledge.

³³ According to Black, "Meno's Paradox" (above, n. 8), and Germann, "How Do We Learn" (above, n. 28), the first step in the acquisition of scientific knowledge, on the level of *taṣawwūr*, consists in clarifying concepts, i.e., in advancing from vague concepts (which we can now identify with the mental images) to scientific concepts – that is, concepts the specific "logical" structure of which has been revealed by virtue of grasping their genus and difference. Of course, there are lower levels of clarification, when, for example, only propria are revealed. *Taṣawwūr* thus comes in grades and ranges on a scale from pure mental images, i.e., confused concepts, to what can be expressed in scientific definitions (genus and difference), i.e., clear and distinct concepts. In view of the considerations that will follow shortly, let me anticipate the peculiarity that the sine qua non of giving (developing, grasping) hierarchically structured accounts (*λόγοι*) of a given thing – of semantically and logically charging it – is language.

world and members of social communities, on the one hand, already acquired (pre-scientifically, empirically) a substantial number of images or vague concepts and, on the other hand, learned their native language to some extent.³⁴ Hence, they are able to talk about what is in their minds, just as the teacher can, by ordinary linguistic means, refer to what she wants to talk about. First of all, she must clear up the students' concepts – leading them to an understanding of the respective things' essences (i.e., their genres and differences, cf. n. 33) – before she can move on to proofs and finally demonstrations, securing the knowledge attained (both of “what” and “why”) as objectively and necessarily true.³⁵ At the end of their schooling, upon successful graduation, the students will thus have acquired the entire hierarchically structured body of knowledge that their teachers master – that is, in Fārābī's case, the contents of the whole *Corpus Aristotelicum*; they will have a firm grasp of the first principles, and be able to demonstrate whatever can be proved deductively. In short, the transmission of scientific knowledge from one generation to the next will have been completed successfully with the subsequent cohort of teachers ready to pass the baton.

On the basis of this general outline, we are in a position to look more closely into some of the specifics. Let us begin with Fārābī's emphasis on language, which has already provoked some astonishment in recent research.³⁶ This emphasis is driven by his conviction that the most elevated type of teaching – the one aspiring to the status of science – can be put into practice only by way of language:

Quote 7: Now, the teaching (*ta'lim*) through which only scientific knowledge (*'ilm*) comes about, can take place exclusively by means of discourse (*muhāṭaba*) and what takes its place.³⁷

The reason for this exceptional role of discourse resides in the specific power of language, a power no other human endowment possesses: the power to bring about something in the mind of someone else.³⁸ There is a (quite natural) tendency to read Fārābī's *Burhān* as a logical treatise. However, it can just as well be read as a speech-act theory, as a theory of how to do things

³⁴ Additionally, they have pre-scientific, epistemic attitudes (*taṣdīq*) toward many things; however, these acts of assent or beliefs, as Fārābī is convinced, are not essential in the development of scientific *taṣdīq* and, ultimately, of true scientific knowledge. For “Meno's paradox in the realm of assent”, see Black, “Meno's Paradox” (above, n. 8), pp. 28–32.

³⁵ This is to say that, at the final stage, the students will be able to answer the four scientific questions of Aristotle's *An. Po. B* according to the standards of *'ilm*. Note that Fārābī slightly increases this number, as he distinguishes five questions. However, this addition in reality is a differentiation, since he discriminates between “what” and “which” and, thus, splits the question about a thing's essence into a question about its genus plus another one about its difference. For this recasting of the scientific questions, see particularly the third part of his *Kitāb al-ḥurūf* (*Book of Letters*), which is centered on Fārābī's five questions.

³⁶ See for instance, Black, “Meno's Paradox” (above, n. 8), p. 26: “The most striking feature of al-Fārābī's effort to determine the minimal content required of prior acts of conceptualization is the narrow linguistic framing of the question;” *ibid.*, p. 27: “None the less, the narrowness of the discussion here is surprising against the backdrop of al-Fārābī's broader philosophical project, even granted the linguistic and pedagogical focus of this particular text.”

³⁷ *Burhān* 5: 78 (partially quoted above at n. 25): إنما يكون بالمخاطبة وما جرى والتعليم الذي يحصل عنه علم فقط، مجرى المخاطبة.

³⁸ See, for instance, the passage that immediately follows, in which Fārābī distinguishes between different sorts of discourse (*Burhān* 5: 78–79): “One kind of discourse brings into (*yuhdīr*) actuality something in the mind of the listener that he already knew beforehand. (...) Thus, some discourses aim to bring into actuality something that is in the mind of the listener in proximate potentiality.” Fārābī then introduces the type of discourse cited in quote 4 that elicits something new and constitutes the focal point of his further explanations.

with words.³⁹ On Fārābī's account, in neat accordance with the Arabic philological tradition, language consists of signs that convey meaning. The predominant sort of sign employed in human communication are linguistic expressions (*alfāz*, the plural of *lafz*), which – contingent on a number of factors, such as the context in which they are uttered – have meanings (*ma'ānī*, the plural of *ma'nā*).⁴⁰ In contrast to the dominant, modern Saussurian view, linguistic signs, according to Arabic philologists, are completely extramental – acoustic or graphic phenomena – whereas meanings are intramental. In Fārābīan terms, *ma'ānī* are the intensional contents of the mental acts of conceiving (*taṣawwūr*) and assenting (*taṣdīq*). And this is precisely where his speech-act theory is psychologically anchored. By means of words (*alfāz*) a teacher can influence her students' *taṣawwūr* and *taṣdīq*, because locutionary acts have illocutionary power. Granted, they are not infallible; there is always the possibility of misfires. But within the framework of a linguistic community, language use is fairly successful. In the case of scientific teaching, the major limiting factor in bringing about the intended result will probably rather be the students' intellectual capacities than the efficacy of language.

It is only in this light that Fārābī's – at first sight unexpected – decision to introduce his distinction between *taṣawwūr* and *taṣdīq* as an answer to Māyīn's doubt becomes fully plausible. As indicated above, when I justified my translation of these terms,⁴¹ they describe mental or, perhaps more precisely, psychological acts. *Taṣawwūr* is the act of conceiving something, *taṣdīq* that of believing-that-something-is-or-obtains, i.e., of assenting to something. Both acts are intentionally directed, and their respective “contents” are nothing other than *ma'ānī*. Even if the (philosophical) origin of Fārābī's notions of *taṣawwūr* and *taṣdīq* can be pinpointed in the passage immediately preceding Aristotle's Meno paradox, *Posterior Analytics* A 1, 71 a 11-13, as some scholars have argued,⁴² throughout the *Burbān* section on teaching and learning they consistently maintain their psychological dimension. What Fārābī's teacher seeks to influence are not logical propositions and judgments, but the manner in which her students conceive of and assent to something, how clearly and distinctly they actually understand (Aristotle's *ἔσυνείναι*) and how well-grounded their beliefs (Aristotle's *προὔπολαμβάνειν*) are. It is the *ma'ānī* – the semantic details – of the intensional contents of these acts that make a difference in the quality of the acts themselves and, hence, determine whether the end result of the students' mental activities will amount to true scientific knowledge (*ilm*) or not.

This accentuation of speech acts and their psychological impact on mental processes is certainly remarkable. Yet it is spurred by the conceptual framework Fārābī's reference text establishes in its opening line, that of teaching and learning.⁴³ Meno's puzzle, in the hands of Fārābī, is an engagement with teaching practices and principles prevailing, not so much in the age of Aristotle, but rather in his own time. This particular focus clearly stands out at various

³⁹ Needless to say, this is an allusion to Austin's classic of the same title.

⁴⁰ On the theory of *lafz* and *ma'nā*, see N. Germann, “*Lafz* and *ma'nā*”, in *The Encyclopaedia of Islam Three*, ed. K. Fleet et al., Brill Online, <<http://referenceworks.brillonline.com/browse/encyclopaedia-of-islam-3>> (accessed on Feb. 14, 2021).

⁴¹ Above, n. 26.

⁴² See Lameer, *Conception and Belief* (above, n. 26), pp. 23–24, with references to the literature he has reviewed. Lameer distinguishes between “philosophical” and “terminological” origins of the two notions. The line in *An. Po.* reads (trans. Barnes [above, n. 3], p. 2): “It is necessary to be already aware of things in two ways: of some things it is necessary to believe already [*προὔπολαμβάνειν*] that they are, of some one must grasp [*ἔσυνείναι*] what the thing said is (...).”

⁴³ See above, quote 2.

places of our section in the *Burhān*, most visibly however in its introduction. There, Fārābī offers a succinct exposition of the notion of teaching departing, in neat Aristotelian fashion, from a general definition:

Quote 8: Teaching is every activity (*fi'l*) a human being undertakes (*fa'alabu*) with the aim that in someone else arises (*yahşulu*) the knowledge (*'ilm*) of something or (...) a habitual faculty (*malaka i'tiyādiyya*) (...).⁴⁴

Fārābī then continues to further differentiate between kinds of teaching, but already at this point it is important to take note of the essential features characterizing any type of teaching: It is an activity (*fi'l*) aiming to bring about something in someone else.⁴⁵ In agreement with his reference text, as we have seen, Fārābī is primarily interested, in what follows, in the transmission of *'ilm* in the strict sense of the word, that is of scientific knowledge. However, here in the introduction, he offers illuminating glimpses at those features that ought to distinguish teaching in every sort of classroom. He proceeds by consistently distinguishing these features from those of other didactic practices – some of which, it would appear, were quite common in his time. In this connection, Fārābī's favorite target turns out to be a kind of teaching based on what he calls “habituation” (*ta'wīd*). It follows principles that are even applied in the training (*talqīn*) of non-human animals and merely consists in imitating or copying (*ihtadā*) the teacher.⁴⁶ Of this type of teaching there are, once again, two subspecies that differ significantly. In order to bring out the distinction between them, Fārābī gives a very peculiar example, that of language instruction:

Quote 9: The first kind [of training] occurs, if a speaker employs an expression (*lafz*) with the intention that the listener often and repeatedly employs the same expression [himself], so that he arrives at memorizing it. This is like the training of a language (*luġa*) or of songs. It falls under the [category of] teaching by imitation (*ihtidā*). The second sort [of training obtains] if, along with this, the aim is to bring about the meanings (*ma'ānī*) of these expressions in the soul of the listener.⁴⁷

The critical potential of this citation becomes even more obvious if we couple it with another illustration Fārābī adduces only a little later, in which he identifies the first type of instruction with the training of parrots (*talqīn al-babaġā*) and, at the same time, that of language to schoolkids (*talqīn al-şibyān al-luġa*).⁴⁸ This is astounding. Fārābī does nothing less than compare the mastery of language acquired by schoolkids to parroting. Schoolkids, on his account, learn the *alfāz*, but lack comprehension of the *ma'ānī*. We can only speculate

⁴⁴ *Burhān* 5: 77: (...) أو شيء ما، أو (...). والتعليم قد يقع على كل فعل فعله الانسان <وقصد به الى أن يحصل به لآخر علم شيء ما، أو (...). ملكة اعتيادية (...).

⁴⁵ Fārābī's theory of teaching can, therefore, generally be described as a psychologically founded act theory, as both knowledge and habits or character traits are located in specific faculties of the soul.

⁴⁶ See *Burhān* 5: 77-78: فعلا: (...) تعلمها لها. وكذلك متى فعل الانسان فعلا: (...) ليحتذي به غيره...، قيل إنه تعليم.

⁴⁷ *Burhān* 5: 78: ليحصل له: (...) حفظ اللفظ نفسه. وذلك مثل تلقين اللغة والأغاني. وهو داخل في تعليم الاحتذاء. والصنف الثاني أن يقصد به مع ذلك أن ترتسم معاني تلك الألفاظ في نفس السامع.

⁴⁸ *Burhān* 5: 78: (...) مثل تلقين البيغاء وتلقين الصبيان اللغة (...)

about exactly which institutions or practices Fārābī had in mind when he came up with this analogy. Perhaps the *kuttāb*?⁴⁹ Or perhaps no institution, in particular, but rather something like a common practice? Be that as it may, in addition to his undeniably critical stance toward certain pedagogical principles, at this point his own philosophy of teaching and the stimulus behind his engagement with Māyīn's doubt plainly shine through. Teaching in Fārābī's sense occurs if and only if understanding comes about – if beyond the mere capacity to reproduce verbal utterances “the meanings of these expressions [are elicited] in the soul of the listener”, as our quotation has it. Teaching, in other words, cannot content itself with having students learn by rote; it must seek to arouse comprehension – even if what is taught in the classroom consists in the contents of authoritative, indeed even of sacred books.

Concluding Remarks

Fārābī's Meno, in our initial quotation from the *Burhān* (quote 3), was obviously a fairly bright student. On his own, he dispelled his doubts by means of “a syllogism” leading to necessity.⁵⁰ Notably, given that he lived prior to Aristotle, the founder of syllogistic reasoning, it might very well be that he discovered this syllogism on his own and did not acquire it through transmission, in contrast to the students in the age of Fārābī. Moreover, what led him to doubt in the first place was his failure to “distinguish between conceiving (*taṣawwur*) and assenting (*taṣdīq*)”, another invention of a later period, this time of Fārābī himself.⁵¹ Fārābī's Meno thus turns out to be a fairly anachronistic thinker, and his paradox, in Fārābī's hands, a distinctive piece of philosophical literature.

In Fārābī's approach, Māyīn's doubt transmutes into a reflection about the conditions determining the transmission of knowledge. Seeking to ascertain the principles and methods that guarantee the scientific standards of this process, Fārābī proposes Aristotle's theory of knowledge and science, however in a guise thoroughly adapted to the circumstances of his time – circumstances that differed significantly from those of ancient Greece. Accordingly, regardless of the precise field of study, learning is or should be distinguished by two features: First, as a matter of fact, it focuses on an established body of knowledge associated with a certain canon of books; second, however, this corpus should be transmitted not – or not only – by having students learn it word for word, by faithfully conserving its *alfāz*, but also by supplying instructions designed as clarification (*taṣawwur*) and verification (*taṣdīq*) of these words, in the form of analyses, explanations, further details, examples, illustrations, proofs, etc. For only in this manner can students transcend the level of blindly parroting mere signs and arrive at a more or less profound understanding of the contents (*ma'ānī*) harbored by the inherited texts; and only in this manner can the students come to recognize that the transmitted positions are true, and are placed in a position to defend them.⁵²

⁴⁹ See above, with n. 19.

⁵⁰ Unfortunately, Fārābī does not tell us what this syllogism (*qiyās*) looked like. Given the context, we can perhaps suppose that he was thinking of a form of argumentation ultimately grounded in demonstration (*burhān*).

⁵¹ See above, n. 26.

⁵² In passing, it should be mentioned that the kind of (scientific) understanding Fārābī envisions here is, in his view, pivotal for the attainment of happiness, humanity's final goal; cf. N. Germann, “Logic as the Path to Happiness: Al-Fārābī and the *Divisions of the Sciences*”, *Quaestio* 15 (2015), pp. 15-30.

In the age of Fārābī, passing on a fixed body of knowledge and teaching in the classroom were time-honored practices. But what was the epistemological foundation of these practices? How can a student distinguish true knowledge from pseudo-knowledge? How can a teacher ascertain whether students actually understand what they are taught and come to believe in what truly is the case and do not fall prey to “alternative facts”? And how can we make sure, as a society, that the insights once discovered or revealed in the past are reliably passed on from one generation to the next?⁵³ It must have been concerns like these that incited Fārābī to take on the challenge of Meno’s paradox and to reconsider his doubts – although from a perhaps somewhat unexpected angle.

⁵³ It is worth noting that Fārābī’s concern for the reliable transmission of a fixed (and completed) body of knowledge conspicuously reverberates discussions among *ḥadīth* scholars (i.e., those active in establishing a sound corpus of the Prophet Muhammad’s sayings) and *uṣūlīs* (legal theorists engaged in deriving legal regulations from both the Quran and the Sunna) about the features distinguishing dependable text traditions (both in terms of the chain of transmitters – their trustworthiness – and the precise wording, i.e., the specific object of legal hermeneutics and Quranic exegesis).