

## Is the Syllogism Ampliative?

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In the Islamic intellectual tradition, the syllogism (*qiyas*) or deduction, represents the securest means of coming to acquire a piece of non-evident propositional knowledge. However, the syllogism's high standing, in the eyes of Muslim logicians, hasn't gone unchallenged by proponents of alternative views about the nature of knowledge, its means, or even its possibility. These folks critique the syllogism in a number of ways. Among these, one in particular has a long history, with advocates among groups with widely different purposes - such as skeptics, Salafis, and (in the case we're interested here) Sufis.<sup>1</sup> We'll look into the objection in a bit more detail later, but for now we can summarize it as follows: it avers that the syllogism – specifically the first figure syllogism – is viciously circular and thus incapable of producing new knowledge for us.

The challenge, however, hasn't gone unanswered either, and the response, like the objection, has a long pedigree as well. In the Islamic tradition, this dialectical exchange over the validity of the (first figure) syllogism is exemplified in a famous discussion between representatives of two paths to knowledge - the gnostic (*'irfan*) way embodied by Abu Sa'id Abi'l-Khayr (d. 440/1049), on the one hand, and the philosophical (*hikma*) way embodied by Abu Ali Ibn Sina (d. 428/1037), on the other.<sup>2</sup> The former – the gnostics or *'urafa* – distinguish themselves by an appeal to a mode of knowledge that is (purportedly) supra-rational; whereas the latter – the philosophers or *hukama'* – are taken to be the advocates par excellence of the primacy of reason or discursive knowledge. The challenge the gnostics pose to the philosophers in general, and to the syllogism as an epistemic tool in particular, is serious because it threatens the possibility of something the latter prize and pride themselves on, namely, science or demonstrably certain knowledge. Thus, if the syllogism falls, then so does the scientific enterprise of the philosophers. Hence, the urgency of the gnostics' challenge has to be met.

But before stating the criticism Abu Sa'id and the defense Abu Ali mounts, it would be good to first briefly outline the nature of knowledge, its divisions, and the methods for its acquisition according to the philosophers in order to better appreciate the epistemic value they accord to the syllogism, so that we can better see what's at stake here for the friends of the syllogism. So, I shall begin with that, then turn to the Abu Sa'id's objection, and then take up the Avicennian response.

### Knowledge and its divisions

For the Islamic philosophers, knowledge (*'ilm*), in general, is to be explicated as:

'the occurrence of the form or essence of a thing in the intellect (of the knower)'

What does this mean? Let me try and explain with an example or two.

Suppose I ask you, “Do you know what an angel is?” You respond, “Yes,” and go on to tell me that it’s, say, “A spiritual being.” Or suppose I ask, “Do you believe angels exist?” And you answer in the affirmative: “Yes, I do.”

In both cases, the *hukama’* would say you enjoy or are in a state of knowledge in the following sense: something is represented to you or, equivalently, some representational content obtains for you. This content is what is called the “form” or “essence;” i.e., that occurs in your mind or intellect. Now, this obtained mental content (that is represented to you) they classify into two sorts: it is either (i) judgement-involving i.e., in which you accept or reject the relation between some mental contents (represented to you), or (ii) not i.e., it is devoid of judgement, in which case some mental content is merely being represented to you. If the latter is the case, it is called a “conception” (*tasawwur*); and if the former, it is called an “assent” (*tasdiq*). So, all knowledge is then either of (ii) the conception-kind or (i) the assent-kind. See Fig. 1.

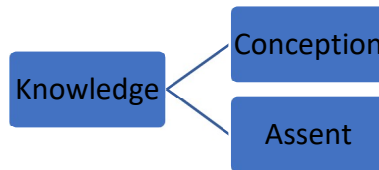


Figure 1

Based on the responses given to the questions posed earlier, an example of knowledge of type (ii) in your possession is your understanding what an “angel” is, here, you are simply grasping an idea (i.e., that of “angel”). And an example of knowledge of type (i) in your possession is your belief that “angel’s exist.” Here, you are affirming the truth of a proposition (i.e., that “angel’s exist”).

Now, each type is further divisible into two sub-types, so that we have four divisions in total. For a given conception or assent, it is said to be either be “self-evident: (*badihi*) or not, in which case it is said to be “acquired” (*iktisabi*) – see Fig. 2.

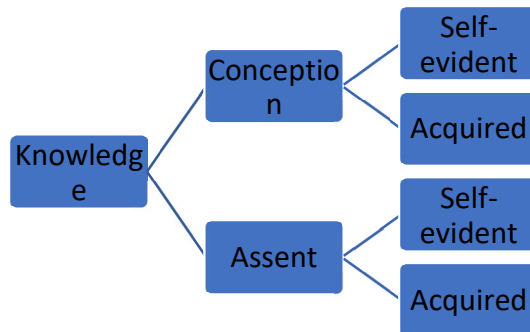


Figure 2

What's the difference between the self-evident and the acquired kinds of conception and assent?

The difference has to do with how we come into possession of each. "Self-evident" knowledge we come to have without doing any thinking, but the "acquired" we only come to possess by means of thinking, where "thinking" is to be understood as a *discursive* activity i.e., an activity in which we arrange what we already know in such a way that we are led to knowing something new thereby.

Thus, with regard to some things, we've a pretty good idea as to what they are without any process of thought (in the above sense) on our part – e.g., our knowledge of "sweetness." And other things we know to be true (or false) but without having to think about the matter in any deep or systematic way – e.g., our belief that "sugar is sweet." Both are examples of self-evident conception and assent. Yet, certain things we come to have an idea of only after a long process of thought – e.g., the idea of the "rational soul." Other things we only come to believe only after thinking hard for a while – e.g., that the rational soul is incorruptible. These are examples of acquired conception and assent. And in these latter two cases, we only come into possession of them by means of certain (epistemic) tools which, in the language of the logicians, are called "expository statement" (*qawl sharih*) and a "proof/argument" (*hujja*), respectively.

Leaving aside the "expository statement," let us focus on "proof" or "argument." Again, proof/argument is the means by which we come to have a piece of "acquired" knowledge. For the Islamic logicians, there are three basic kinds of "proof/argument." First, "deduction" or "syllogism" (*qiyas*). Second, "induction" (*istiqra*), and third, "analogy" (*tamthil*). Our concern here is only with the first i.e., *qiyas*.

What, then, is a "deduction" or a "syllogism"? Muslim logicians define it as follows:

[1] A statement composed of propositions that, when granted, necessarily entail in virtue of themselves another proposition.<sup>3</sup>

As such, the syllogism consists of three parts, two of which are the premises and one the conclusion. One of the premises, usually placed first, is called the "minor: premise, and the other, usually placed second, is called the "major" premise.

Let's now consider an example. Earlier, we supposed that the claim "the rational soul is incorruptible" was a piece of acquired knowledge. Now, how does one ignorant of it come into possession of this knowledge? For the Islamic philosophers, it is by means of the following syllogistic-proof:

(Minor) Every rational soul is self-subsistent (*qa'im bi-nafsihi*)

(Major) Every self-subsistent thing is incorruptible (*ghayr qabil lil-fasad*)

(Conclusion) Therefore, every rational soul is incorruptible

The conclusion (“every rational soul is incorruptible”) follows of necessity from the two premises (“every rational soul is self-subsistent” and “every self-subsistent thing is incorruptible”) *if* they are accepted as true. Thus, if we concede the premises, there’s no way for us to avoid the conclusion. Thus, knowledge of the conclusion follows from a knowledge of the premises; or equivalently, knowledge of the premises (rightly related) guarantees knowledge of the conclusion. This entailment relation (between the premises, when accepted, and the conclusion) is part of the very make up of the syllogism. For the Islamic logicians, the syllogism is a form of reasoning in which the mind moves from its knowledge of something universal or general (that it already knows) to a knowledge of something more particular or specific (that it previously didn’t know but came to know). So, in our example, we moved from knowing something about the self-subsistent (=universal/general) to knowing something about one of its instances i.e., the rational soul (= particular/specific). According to the Islamic philosophers, all scientific i.e., certain, acquired knowledge is to be modelled accordingly; that is, it ideally ought to be obtained syllogistically. Thus, if it turns out that there’s a problem with the syllogism’s first figure, then the scientific knowledge claims the Islamic philosophers make about the world are seriously called into question. And this is precisely what proponents of alternative views try to show: that the syllogism, as an epistemic tool, is problematic in a way that undermines the knowledge purportedly obtained by its means. Let us now turn to one example of how opponents of the syllogism try to undermine it.

### **Abu Sa’id Abi’l-Khayr’s criticism**

The story goes that when the meeting between the philosopher Abu Ali and the mystic Abu Sa’id took place, the mystic, upon recognizing the philosopher, reportedly said:

اکنون که آسمان دانی نزد آسمان بینی پیامد باید بروش فیلسوفان سخن راند

Now that the sky-knower has come to the sky-seer, speech must be carried out in the manner of the philosophers

And in keeping with that obligation, the mystic offers the following logical critique of the syllogism: basically, that it is viciously circular and therefore does not really add to what we know.

More specifically, the syllogism, as the philosophers claim, is supposed to take us from something we know (the premises) to something we don’t know (the conclusion). However, knowing one of the two premises, specifically the major premise, requires already knowing the conclusion in advance. This is because the thing we learn something about in the conclusion (called “the subject” of the conclusion), which in our example was “rational soul,” turns out to be among the things that the major premise tells us something about, which in our example was “self-subsistent thing.” Technically put, this is to say that the subject of the conclusion is among the individuals or “instances” of the subject of the major premise. If so, then in the syllogism, it is not that (our knowledge of) the conclusion (that the “rational is

self-subsistent”) *results* from (our knowledge of) the two premises; rather, it is that (our knowledge of) the major premise *presupposes* (our already knowing) the conclusion. For if rational souls are among the things that are self-subsistent, then we couldn’t know the universality of the major premise, i.e., that *every* self-subsistent thing is incorruptible, unless we first knew that all rational souls are so, since all rational soul’s are among self-subsistent things. For suppose we didn’t know that every rational soul to be is incorruptible? How could we say that we know *every* self-subsistent thing (among which things are rational souls) to be incorruptible? Clearly, we can’t, for there’d be some things (i.e., rational souls) about whose corruptibility or incorruptibility we are ignorant. So, to know the major premise, we need to examine all its instances, among which are rational souls. But if we suppose we already know all rational souls to be incorruptible (as part of our knowledge of the major premise), then we don’t really need the syllogism to get us to that knowledge in the conclusion at all; for we would have already known it! Thus, because knowledge of the major premise presupposes knowledge of the conclusion, not entails it, the syllogism doesn’t really give us new knowledge. So, the state of affairs, then, is the opposite of what the philosophers claim: the knowledge of the conclusion is something followed *by*, not something that follows *from*, the knowledge of the major premise specifically (in conjunction with the minor). In sum, knowledge of the conclusion (of a syllogism) depends on knowledge of its major premise, and knowledge of its major premise depends in turn on knowledge of the conclusion. Thus, the syllogism is viciously circular and thereby incapable of bestowing new information.

Here’s Abu Sa’id making his case against the *hukama’*:

[2] If the goal of the syllogism is to arrive at a knowledge of the conclusion, then the knowledge [of the conclusion] follows the two premises of the syllogism that are known first. Now the first figure is the basis and reference point of the other figures. So if we say ‘every B is A’ [= major premise], and ‘every J is B’ [= minor premise], then the conclusion – ‘every J is A’ – is posterior to the knowledge of the two premises i.e., ‘B is A’ and ‘J is B’.

But it is known that it is not possible to know that ‘every B is A’, while J is some of B or all of it, except after knowing that ‘every J is A’. Thus, knowledge of ‘every J is A’ is prior to knowledge of ‘every B is A’. For knowledge of the universal thing does not result except after a knowledge of every one of its particulars. An example of this is:

Every human is an animal  
Every animal is a body  
Therefore, every human is a body<sup>4</sup>

It is not possible to know that ‘every animal is a body’ except after we know that ‘human is a body’. For if we doubt or don’t know that some human from among humans beings is a body, we don’t know that ‘body’ applies to ‘every animal’.<sup>5</sup> Thus, the knowledge of ‘every human is a body’ is prior to the knowledge of ‘every animal is a body’. If this is the case, then knowledge of the conclusion is followed [by the major premise], not follows [from it].<sup>6</sup> And if this is the situation with the root and base [syllogistic figure], then what’s your opinion about its branches?

Hence, if it is invalid, it is then not possible to arrive at a knowledge of anything by it, in which case there's no need for it.<sup>7</sup>

And God knows best.<sup>8</sup>

### **Abu Ali's responses to the critique**

In the tradition, two responses have been attributed to the Shaykh to Abu Sa'id's puzzle/objection (*shubha*). The first comes in a context where he's dealing with the objection head on. The second response attributed to him, though it addresses the objection, does so indirectly i.e., in a different context, where he's dealing with a different, though related, issue. With respect to the first response, Avicenna notes that the *shubha* is based on a false assumption, which is that the only way to acquire universal knowledge of something is through an inductive examination of all the particulars of that thing. In the second response, the Shaykh distinguishes different senses of knowledge and ways of knowing, with the consequence that the circularity the *shubha* urges is not vicious but benign. The cumulative upshot of both responses is that syllogistic reasoning genuinely advances the knowledge base from which we start.

Let me now briefly unpack the two Avicennian responses.

#### ***The first***

In the first *jawab*, as I said above, the Shaykh points out the questionable assumption in Abu Sa'id's criticism, writing:

[3] I say: the premise stating that "knowledge of the universal thing does not result except after a knowledge of every one of its particulars" is not granted, since it is not a condition of universal judgements that they be taken hold of from their particulars. What is tracked down in this manner is by way of induction and so unreliable unless [various] conditions are fulfilled. And perhaps they will not [all] be completely met. If this point [we just made] is granted, the objector's claim that 'knowledge of 'every J is A' is prior to [the knowledge] of [every] 'B is A' is not granted.<sup>9</sup>

That is, the Shaykh is urging that knowledge of the major premise's universality (e.g., knowledge of *every* self-subsistent thing being incorruptible or that "every animal is a body") depends on knowing the conclusion (e.g., on knowing that "self-subsistent" is true of "rational soul" or that "body" is true of "human") only *if* knowledge of the major premise's universality is obtainable by means of induction. But this isn't necessarily the case in the examples at hand; that is, to know that "*all* self-subsistent things are incorruptible," or to know that "every animal is a body," we don't need to examine one by one *all* (past, present, future, and possible) self-subsistent things or animals. For that's clearly not possible to do. But what is possible is for us to know such universal propositions in some other, non-inductive, way.

[4] Our knowledge of this universal premise i.e., that 'every self-subsistent substance is incorruptible' does not obtain for us after our knowledge of the conclusion – which is 'every

rational soul is incorruptible' – and by its mediation, so that it follows that knowledge of the conclusion is prior to knowledge of the major [premise], and that knowledge of the universal is after knowledge of its particulars. Rather, [our knowledge of the universal premise] obtains by other means.<sup>10</sup>

What could these other means be? Avicenna doesn't list them all in the response, but what he says in other places tell us what he has in mind. One way is that they can be known axiomatically i.e., simply on the basis of knowing the meanings of the terms involved. For example, once we know the meanings of "whole," "part," and "greater than," we immediately see the truth of "every whole is greater than its part." Or once we understand what a "circular argument" and "invalid" mean, we grasp that "every circular argument is invalid" is true. Similarly, once we know what "body" and "animal" mean, we immediately see that "body" is essential for "animal" and so see the truth of "every animal is a body." In all such cases, induction isn't at all needed. Another way universals may be known is on the basis of adding a universal judgement (itself known self-evidently) to some experienced particulars. For example, we know "all wood is burnable" by means of experience with some pieces of wood together with the addition of the (axiomatically known) premise "judgement about permissibility and impermissibility for similar things is the same."

Thus, for coming to know a universal major premise, we don't necessarily depend on induction in which we examine *all* cases of what we are making a judgment about. Hence, when Abu Sa'id said: "the knowledge of 'every human is a body' is prior to the knowledge of 'every animal is a body,'" this is not true. All we may just need to know the universal major is relate some terms we already understand (e.g., "animal" and "being a body"); once we do this, we see the truth of the universal proposition involving those terms. What Abu Sa'id's critique assumes is that we never know something universally on the basis of its nature or essence but by inspecting its individuals. But this, as we just saw, is simply not true with all universals; for, as said, we can know "every animal is a body" independently of experience with every particular animal (e.g., human and non-human).

If so, then our knowledge of the universality of that proposition is prior to and, when the minor premise is added to it, entails our knowledge of the conclusion i.e., that "every human is a body." Hence, contra Abu Sa'id's *shubha*, there is no circularity at all in the first figure syllogism. In fact, given that in our example "body" is essential to "animal," and it's true that "every human is an animal," then "every animal is a body" is also *explanatory* of the conclusion in addition to entailing it. Hence, the (first figure) syllogism in this particular example *does* in fact teach us something we didn't know before, i.e., *why* humans are bodies. Avicenna writes:

[5] In this example, the predicate of the conclusion is a constituent (*muqawwim*) of the subject, I mean 'body' for 'animal'. So it [i.e., 'animal is a body'] is known not by a syllogism, since in this case it cannot be unknown in such a way that it can be sought [by syllogism]. Hence, induction is of no use in this case [unlike in others]. For knowledge that 'every animal is a body' does not occur after the knowledge that 'every human is a body', as the example fancifully suggests. On the contrary, by this premise i.e., that 'every animal is a body', we come to know *why* the human is a body, not

that [the human is so]. For the premise is self-evident, since the existence of 'body' for 'animal' is primary, constitutive, and essential, and its existence for 'human' is essential and constitutive, [though] not primary. And by the meditation of 'animal' we know why [it holds of 'human' i.e., in the conclusion].<sup>11</sup>

### **The second**

That was the first Avicennian response to the *shubha*. The second one tackles it indirectly from a different angle. In context, Avicenna is concerned with explaining how in general we come to learn, on the basis of something we already know, something we previously did not know. What is important about the account Avicenna offers to resolving Abu Sa'ids *shubha* is that it will turn out that when we know something universally, we also in a sense know the individual or particulars to which that universal applies. That is, our knowledge of the universal major premise (of a syllogism) contains in some sense a knowledge of what we are seeking to know in the conclusion (of a syllogism).

To show this, the Shaykh first draws two pairs of distinctions:

[6] In sum, knowledge is either general or specific; and is either potential knowledge or actual knowledge.<sup>12</sup>

And these are correlated; for knowing *x* actually is knowing it distinctly or specifically – i.e., knowing *x insofar as it is x*. What is meant by knowing *x* potentially is knowing it indistinctly or generally – i.e., it is to know *x insofar as it is an F* (where *F* = some universal). Then, Avicenna makes the following important point:

[7] When there occurs for us some universal knowledge, [...] we know that universal actually and know many particulars under it potentially.<sup>13</sup>

As an example, let us take the universal "animal" and our previous proposition i.e., that "every animal is a body."

The point in [7] is that when we actually and distinctly know this proposition, we also thereby potentially, and in a general or indistinct way, know another one, such as that a given individual of "animal" (call him "Zayd") is also a body. The reason we only know this potentially and not actually at this stage is because we don't yet actually know that the individual Zayd exists or whether he is an animal:

[8] For example, when we know in actuality that ['every animal is a body'], we don't [yet] know in actuality whether Zayd, who is in some such country, is [a body]; for we may not know that Zayd exists or that Zayd is an [animal].<sup>14</sup>

The claim then is that in knowing, actually and in a specific manner, that "every animal is a body," that amounts to knowing in a sense i.e., potentially and generically, the "bodyness" of some individual or the particulars falling under "animal," e.g., that "Zayd is a body" or that "man is a body." But at the same time, since this is not an actual/distinct knowledge of that,



we are actually/distinctly ignorant of the fact that Zayd is a body. Thus, there are at least three things at play here:

- A) the potential/general knowledge we have of “Zayd is a body,”
- B) the actual/distinct knowledge of we have of “every animal is a body” (in which A is contained), and
- C) our actual/specific ignorance of “Zayd is a body.”

Now if our goal is to obtain C, how do we go about doing that? There must be a way to make A – which knowledge is included in B – into C. Well, that potential knowledge, i.e., A, cannot become actual/distinct knowledge, i.e., C, all by itself because on independent grounds, we know that no potency can transition into actuality by itself. Thus, we need to factor in something else to bring about the transition for us. That other thing, Avicenna explains, must be another piece of knowledge (= the minor premise) that is combined in the right way with what we already know (= the major premise):

[9] So when, by sensation, there’s for us [properly] combined with our prior knowledge of [‘every animal is a body’] that ‘Zayd exists and is an [animal]’, another knowledge in actuality is generated that was in potentiality [before]. And it is that [‘Zayd is a body’].<sup>15</sup>

That is, first we have B (and A by inclusion), which is our major premise. Then, upon perceiving Zayd, we come to actually know D, i.e., that “Zayd is an animal.” D will be our minor premise. After that, we combine or order these two (i.e., B-D) pieces of actual/distinct knowledge in our minds like so:

1. Zayd is an animal.
2. Every animal is a body.

And on their basis, a third piece of actual/distinct knowledge immediately obtains for us, i.e., C, that:

3. Zayd is a body.

In this way, Avicenna states, we transition, by means of a syllogism (in 1-3), from what we actually know (A-B and D) to what was potentially known but actually unknown (C).

Let us return to Abu Sa’id’s *shubha*. Recall that it urged that the (first figure) syllogism is viciously circular and incapable of imparting new information.<sup>16</sup> Given the points above, we should now see better why the *shubha* fails on both accounts.

First, there’s no vicious circularity for, as already clarified in the first response, knowledge of a universal major premise, in this case #2, is not necessarily obtained by (inductively) knowing the instances of the subject of #2, among which is Zayd the human. Thus, there’s no dependence on the sort the objection urges in #2, whether partly or wholly, on #3 here. That sort of dependence relation only runs in one direction, i.e., from #3 to #2. For #3, for both actually/distinctly and potentially/generally being known, depends on an actual knowledge of

#2. Yes, there is a sense in which #2 depends on #3 i.e., insofar as the universality of its major term (“animal”) contains the minor term of the conclusion (“Zayd”); and yes, there’s is a sense in which #3 depends in turn on #2 insofar as an actual knowledge of #2 contains A, i.e., a potential knowledge of #3. However, there’s still no vicious circularity because the aspects of dependence are distinct. Had 2A depended on #3, then we would have had the circularity problem. But, as things are, 2A does not depend at all on #3.

[10] Thus, the thing sought [i.e., 3] is known [i.e., qua A], but not in the respect in which it is unknown [i.e., qua C]; and it is unknown but not in the respect in which it is known.<sup>17</sup>

Thus, no circularity here in the syllogism at 1-3, let alone a vicious one.

From all this, we can also see that our knowledge base is indeed amplified by the syllogism insofar as, by the conclusion of it, we come to determinately and distinctly know something we previously knew only indeterminately or potentially. Thus, contrary to what the *shubha* urges, the syllogism does in fact add new knowledge to that with which we began, in the precise sense of making actually known what was only potentially known or making distinct/specific what was only generally/indistinctly known before it. True, the syllogism does not confer “new” information upon us in the sense of giving us knowledge of something that was totally unknown to us before the syllogism. But, that is to demand of it something it was never meant to deliver by its proponents, for, as the *hukama’* say, all learning (i.e., of things that are not immediately evident) takes place by means of a previous knowledge. What is absolutely unknown cannot be found, and what is fully and actually known is not sought syllogistically.

[11] Therefore, the thing sought is not unknown in every way, so that even if we find it we couldn’t know it. So, we know it but not in a way that is specific to it. And also we aren’t ignorant of it in every way, so that we can dispense with seeking it. So, we are ignorant of it but in a way that is specific to it.<sup>18</sup>

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<sup>1</sup> For the skeptics, see Sextus’ *Outlines of Pyrrhonism* II, ch. XIV, 275-279. For the Salafis, see Ibn Taymiyya *al-Radd ‘ala al-Mantiqiyyin*, 298-299. For further explanation of the Taymiyyan critique, see Hallaq 1993, xxxviii-xxxix.

<sup>2</sup> Danishpazuh, ‘Avicenna’s response to Shaykh Abu Sa’id Abi al-Khayr (introduction and edition), in *Farhang-e Iran Zamin* 1332, vol. I, pp. 189-204.

<sup>3</sup> Jurjani, *Kitab al-ta’rifat*, (Beirut: Dar al-Kutub al-Ilmiyya, 2000), ed. Al-Sud, p. 181.

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<sup>4</sup> We can represent this example as follows:

Every J is B (minor premise)

Every B is A (major premise)

Therefore, every J is A (conclusion)

<sup>5</sup> I.e., since there are some animals i.e., humans, which we don't (yet) know to be bodies.

<sup>6</sup> That is, as was said, knowledge of conclusion is presupposed by a knowledge of the major premise, not entailed by it. In other words, we know the major only after knowing the conclusion, not before.

<sup>7</sup> I.e., for it is viciously circular.

<sup>8</sup> *Avicenna's response to Shaykh Abu Sa'id Abi al-Khayr*, pp. 199-200.

<sup>9</sup> *Ibid.*, pp. 200-201.

<sup>10</sup> *Ibid.*, pp. 201-202.

<sup>11</sup> *Ibid.*, pp. 203-204.

<sup>12</sup> Avicenna, *The Middle Epitome on Logic*, (Tehran: 2017) ed. Yusufsani, IV.2.25, 232.

<sup>13</sup> *Ibid.*, V.2.5, 256.

<sup>14</sup> *Ibid.*, V.2.5, 256. I've modified the example in the text.

<sup>15</sup> *Ibid.*, V.2.5, 526.

<sup>16</sup> The former because knowledge of #2 seems to be derived from, and so (partly) based on, a knowledge of #3 and, in the syllogism, knowledge of #3 is, in turn, (partly) based on a knowledge of #2. For the latter, if in knowing #2 we already know #3, then from 1-3 we don't really learn anything we didn't already know before.

<sup>17</sup> *The Middle Epitome on Logic*, IV.2.15, 231.

<sup>18</sup> *Ibid.*, IV.2.15, 231-232.