

Excerpt from Deborah L. Black, “Logic in Islamic Philosophy”:
<http://www.muslimphilosophy.com/ip/rep/H017.htm>

5. Theory of argumentation

For the entire Islamic tradition, the crowning glory of Aristotelian logic is the syllogistic theory outlined in the *Prior* and *Posterior Analytics*, especially the latter. The purpose of logic is to provide the means whereby knowledge is to be acquired, and the most valuable type of knowledge is that which is certain and necessary, that is, knowledge gained according to the paradigm of demonstrative science laid out in the *Posterior Analytics*. This part of logic, in the words of al-Farabi's [Ihsa' al-'ulum](#), is 'the strongest and pre-eminent in dignity and authority. Logic seeks its primary aim in this part alone, and the rest of its parts are only for its sake' ([Ihsa' al-'ulum](#), in Amin 1968: 89). Even the formal study of the syllogism itself is primarily undertaken for the sake of its employment in demonstrations.

In their formal syllogistic theory, the Islamic Aristotelians mainly follow Aristotle's *Prior Analytics*. While they are aware of the fourth figure traditionally ascribed to [Galen](#), the tendency is to dismiss this figure as superfluous and intuitively implausible, as Ibn Sina does in the seventh method of his [al-Isharat wa-'l-tanbihat \(Remarks and Admonitions\)](#); or to ignore it entirely, as al-Farabi does in his *Kitab al-qiyas (Book on the Syllogism)*. Similarly, the Arabic philosophers knew of the alternative propositional logic of the Stoics and incorporated elements of it in their discussions of conditional or hypothetical (*shartiyyah*) syllogisms (see [Logic, ancient](#)). However, they did not accept the Stoic inference schemata, nor did they treat conditional connectives as truth-functional, since they did not consider the parts of conditional statements to be complete propositions in their own right. Moreover, for the Islamic logicians 'conditional' was a generic term which included both 'conjunctive' (*al-muttasilat*) conditionals (of the form, 'if... then') and 'disjunctive' (*al-munfasilat*) conditionals (of the form, 'either... or'). Conditional syllogisms of both sorts were viewed as relying upon a process of 'reiteration' or 'repetition' (*istithna*), a term which referred to the repetition of the antecedent or the consequent, or one of the two disjuncts, in so far as it formed the second premise of a syllogism. Thus in the conjunctive conditional syllogism, 'If it is daytime, then it is light; but it is daytime, therefore it is light', 'it is daytime' would be labelled the *mustathna* or reiterated premise, since it is by its restatement that the syllogism reaches its conclusion.

When we turn to the specific application of syllogistic theory to particular types of argumentation, the epistemological concerns of Islamic logic surface once more. In particular, the Islamic philosophers explained the primacy of demonstration, and the ancillary role of dialectical, rhetorical, poetic and sophistical syllogisms, by reference to the epistemic status of the premises used in each type of syllogism, and the type of assent they could produce to the conclusion of the syllogisms in which they were employed. The classification of syllogisms and their premises according to the nature of their assent is found in the logical writings of all the major Islamic philosophers, but the most complete and systematic classification of premises occurs in three of Ibn Sina's works, *al-Burhan (Demonstration)*, in *al-Shifa'*, *al-Najah (Deliverance)* and [al-Isharat wa-'l-tanbihat](#)

(Remarks and Admonitions). Although these three accounts differ somewhat in the number and variety of the premises listed in each, generally they present a single and consistent theory. Demonstrative syllogisms are composed of premises which necessitate assent and include self-evident first principles as well as sensible, empirically evident propositions. Dialectical syllogisms are based upon generally accepted beliefs (*al-mashhurat*), which are equivalent to the *endoxa* of Aristotle's *Topics*; on premises granted for the purposes of dialectical debate; and in general, on all premises assented to because they are universally accepted by all people, or by people deemed authoritative. Rhetorical syllogisms are similar to dialectical ones, except that they are accepted unreflectively and on the basis of a more limited authority, relative, for example, to a particular group or sect; as such, they are only supposed or presumed to be 'generally-accepted beliefs'. Sophistical premises are those accepted because of some misleading resemblance to another type of premise, and poetic premises are those that produce a motion in the faculty of imagination (*al-takhyil*), not an act of intellectual assent.

The inclusion of rhetorical and poetical syllogisms in this enumeration reflects a common assumption among Islamic philosophers that Aristotle's *Rhetoric* and *Poetics* are parts of his logical *Organon*. This assumption was inherited by the Islamic tradition from the Greek commentators, and it was used by them in part to account for the differences between philosophical and popular modes of discourse and argumentation, particularly in the context of discussions of the relations between philosophy and religion. The Islamic philosophers held that whereas philosophers rely principally upon demonstrative and dialectical syllogisms, religious leaders and theologians generally use rhetorical and poetical syllogisms to persuade the general populace. Religion is thus viewed as an image or reflection of philosophical, demonstrative truth propounded in language and argument-forms that can be easily understood by the mass of humanity.

The place of dialectic within the theory of argumentation is perhaps the most ambivalent in Islamic logic. While dialectic is seen as inferior to demonstration, its importance for philosophy is none the less recognized. A good example of this is found in al-Farabi's enumeration in his *Kitab al-jadal (Book on Dialectic)* of the ways in which dialectic serves philosophers. According to al-Farabi, dialectic hones argumentative skills, introduces the principles of the special demonstrative sciences, alerts the mind to the self-evident principles of demonstration, helps to develop communicative skills and provides the means for refuting sophistry. Of these five uses, only the fourth is external to the proper aims of philosophy and closer to the tasks usually reserved to theology and religion. The other four pertain to the learning or acquisition of truly philosophical skills, even if they lie outside the strictly demonstrative aims that are the ultimate end of philosophy.

In the case of the theory of demonstration itself, Islamic logicians organized their commentaries on the *Posterior Analytics* around the definition and the demonstrative syllogism as the means by which both conceptualization and assent are most perfectly attained. Al-Farabi's *Kitab al-burhan (Book on Demonstration)* offers an excellent summary of the standard approach taken by Islamic philosophers to theory of demonstration and its epistemological aims. Just as he identified the categorical statement

as the embodiment of perfect assent on the propositional level, here al-Farabi identifies demonstrative certitude as complete or perfect assent on the level of syllogistic inference. Moreover, certitude is defined by al-Farabi in terms of what we would now label 'second-order' knowledge:

Certitude is for us to believe, concerning the truth to which we have assented, that it is not possible at all for what we believe about this matter to be different from what we believe it to be; and in addition to this for us to believe, concerning our belief, that another belief is not possible - in the sense that whenever some belief about the first belief is formed, it is impossible for it to be otherwise, and so on *ad infinitum*.

([Kitab al-burhan](#), in al-'Ajam and Fakhry 1986-7, 4: 20)

Certitude requires not just knowledge of a conclusion, p , but knowing that we know p . This sort of certitude al-Farabi calls 'necessary certitude'. However, he also allows for non-necessary certitude, which holds 'only at a particular time', and thus can be applied to propositions about merely contingent beings: 'Necessary certitude and necessary existence are convertible in entailment, for what is verified as necessarily certain is necessarily existent' ([Kitab al-burhan](#), in al-'Ajam and Fakhry 1986-7, 4: 22). While al-Farabi recognizes both of these varieties of certitude to be forms of perfect assent, in his view necessary certitude alone fulfils the strict conditions of Aristotelian demonstration, since it alone will pertain to objects which cannot be other than they are.

Al-Farabi's remarks on the utility of dialectic, combined with his extension of the notion of perfect assent beyond the confines of strict and necessary demonstration, illustrate the overall breadth of the Islamic philosophers' theories of argumentation. Despite their professions of the primacy of the demonstrative paradigm within philosophy, the Islamic Aristotelians recognized a broad range of legitimate and useful argument forms and acknowledged their importance as philosophical tools leading to knowledge of the unknown.

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