

1 Alfarabi's *Kitāb al-Ḥadal*: A Complete English Translation

(19)¹ In the Name of God, the Merciful, the Compassionate

Book of Dialectic **<The Definition of the Art of Dialectic>**

[1] The art of dialectic is the art by means of which one acquires the faculty to construct a syllogism out of generally accepted premises² in order to refute a thesis whose subject is universal. One comes to accept [this thesis] by questioning a respondent who aims to defend whichever one of the two parts of the contradiction [*al-naqīd*]³ he happens [to accept], and to defend every thesis whose subject is universal which comes to a questioner who seeks to refute whichever part of the two contradicting parts happens to arise.⁴ Aristotle makes this art a method when he defines it as “a method by means of which we are prepared (20) to construct syllogisms out of generally accepted premises for every question that is posed⁵ so that, if we offer an answer, we shall not present anything in it [that] is contrary [*muḍādd*].”⁶

[His saying] “contrary” [*muḍādd*] instead of “opposite” [*muqābil*] suggests [and] indicates [by it] “contradictory” [*munāqīd*]. Our saying, “we shall not present anything in it that is contradictory [*munāqīd*]” signifies that we do not accept anything that necessarily leads to the contradictory of the thesis that we are trying to defend. His saying, “for every question that is posed” means every thesis that comes to be accepted by questioning, and he refers thereby to whichever of the two parts of the

¹ In what follows, the bold parenthetical numbers refer to the page numbers in the Mallet Arabic edition, the bracketed bold numbers refer to Mallet's own division of the Arabic text, and angle brackets enclose Mallet's interpolations to the Arabic text. “Br.” refers throughout to the Bratislava TE 41 manuscript source that forms the basis of the translation. I would like to thank Miriam Galston for kindly providing a copy of the Bratislava manuscript.

² See Aristotle, *Prior Analytics*, secs. 71ff.

³ See Aristotle, *Posterior Analytics*, 72a8–14, and 39, below.

⁴ Cf. Aristotle, *Prior Analytics*, 165b3; see *ibid.*, 24a21ff.

⁵ See Aristotle, *Topics*, 100a-3. ⁶ Cf. *ibid.*, 100a18–21.

contradictory that the questioner comes to accept from the respondent. The “method” and the “approach” and the “way” according to the Ancients [consist of] every habitual capacity by which [one] strives for some objective in an orderly manner.⁷ This is a genus that comprises all five syllogistic arts.

[2] The activity of this art is debate [*mujādala*] and dialectic [*ḥadāl*]. It is a discourse [*mukhāṭaba*] with well-known speeches by means of which a questioner seeks to refute whichever of the two parts of a contradiction that arises and to achieve that by questioning a respondent who seeks to defend it. If he is a respondent, he seeks by means of them [sc. well-known speeches] to defend whichever of the two parts of a contradiction that happens to arise in a questioner who seeks to refute it. The questioner's refutation of what the respondent seeks to defend (21) is the aim of the questioner, and that is the victory over the respondent. The respondent's defense of that which the questioner seeks to refute is the aim of the respondent, and that is the victory over the questioner.⁸ Aristotle opines that the dialectical concern is first of all the refutation of speeches even if the refutation arises only by means of producing as a conclusion the opposite of that whose refutation is sought. However, the primary concern is refutation; as for the proof, it is the secondary concern.⁹

This discourse occurs only between a questioner and a respondent and [involves] a thesis whose subject is universal and determined between them. There is no need in this discourse for more than two [individuals]. The condition here is unlike the condition in rhetorical discourse, for there [sc. in rhetoric] a judge [*ḥākim*] is needed in addition, whereas it is sufficient [in dialectic] to have one questioner and one respondent. The questioner from among the two seeks to refute [the respondent] by bringing forth a syllogism he constructs from well-known premises in order to produce its contrary. The respondent seeks to defend it [sc. the syllogism] by not offering the questioner anything that leads to its contrary. And if the questioner brings forth something by which, according to him, he seeks to refute that thesis, he achieves it by a speech that opposes that thing.

[3] That is because it is the way of the questioner first to accept the thesis from the respondent by questioning. When the thesis is posited, his actions succeed after that in obtaining, also by questioning, (22) from the respondent the premises that he opines are useful for refuting each

⁷ Cf. *ibid.*, 1.3, and Aristotle, *Rhetoric*, 1354a1–11, 1355b12–15.

⁸ Aristotle, *Topics*, 159a30–32.

⁹ *Ibid.*, 109a8–10, and Aristotle, *Sophistical Refutations*, 172a15ff.

and every premise of that thesis. When, according to the premises granted by the respondent, [he possesses some] premises such that, if he combines them, then the contradiction of the thesis necessarily comes about, he [keeps] them and produces from them the contradiction addressed to the respondent by means of declaration, not by means of questioning. Then, if that is so regarding the respondent, he has been criticized. “Criticism” [*al-tabkīr*]¹⁰ is the syllogism from which the questioner produces [*yuntij*] a certain contradiction from among opinions and theses the respondent is trying to defend. The questioner does not form a criticism against a dialectical respondent from premises not granted by the respondent. If the respondent postulates the thesis that he chooses for himself, then it is his way after that to defend it without granting to the questioner premises from which the questioner benefits in refuting the thesis. But it is only necessary with regard to every question [posed] to seek, concerning everything he grants from each part of the contradiction, the part from which the questioner does not benefit in contradicting the respondent.

If the respondent accepts those premises from which he believes the questioner will not benefit, then the questioner joins from among [the premises] that he [sc. the respondent] accepted, and combines them and considers them as if they produced the contradiction of the thesis, then it is up to the respondent to examine from the figure [*shakl*] of the speech composed by the questioner whether it is a productive [*muntij*] figure or not. As for whether it is up to him to examine each premise of that speech, he may believe that it is not for him [to examine], nor to challenge [*yunāzi*] (23) the knowledge [*ma'rifa*] of each premise, since his acceptance has already preceded for every one of them. It is only up to him to examine and oppose when the questioner brings forth something that he did not already accept. When what he did not already accept is the figure of the speech that the questioner combined against him, if it is not a syllogism, then the respondent must not be criticized. If it is a syllogism, then the thesis of the respondent is nullified and must be criticized.

[4.1] However, sometimes some of the premises that the respondent accepts are premises that, if accepted with the conditions that the respondent accepted them, are neither true nor generally accepted in truth, or are in a condition from which a syllogism that contradicts the respondent's thesis does not come about, [yet] the questioner believes that they are true and that a syllogism is made up from them, so he puts them together and brings them forth to the respondent acting as if they forced

¹⁰ See Aristotle, *Topics*, 161a16, 161b19ff; cf. also Aristotle, *Rhetoric*, 25, and Aristotle, *Prior Analytics*, 20.

the opposite of the respondent's thesis.¹¹ Or the questioner falsifies that which the respondent accepted, so that after the falsification by the questioner there is for him a syllogism by which the respondent is contradicted. In these cases, it is for the respondent to examine the premises. And if they are what he accepted, and there is an investigation from which the questioner does not benefit, and from which he may not compose a syllogism in truth – yet the questioner [still] believes that a syllogism is composed from them against the respondent – then it is incumbent upon the respondent to receive from the questioner – that which removes that belief regarding (24) the conditions [of the premises] that were accepted so that they do not help the questioner, and the syllogism that the questioner believes is composed from them is [in fact] not composed. And if the questioner falsifies [*ḥarrafa*] what the respondent agrees to, it is incumbent upon the respondent to clarify that.

[4.2] Sometimes the questioner does not cause assent for each of the premises – one after the other – by questioning, but rather (after he causes assent to the thesis by questioning) proceeds to the premises that he opines refute the thesis, then combines them and opposes them [against the respondent] with their conclusion either from the standpoint of declaration [*al-akhbār*] or questioning. He must do that only regarding what he believes the respondent will accept if opposed with them. The first kind of interrogation is the interrogation regarding the premises – one after the other – by omitting to mention the conclusion,¹² and the second is the discourse with the premises and the conclusion along with them. If he uses the second kind, then it is for the respondent at that time to examine the premises of the argument brought forth by the questioner from his own standpoint and its [sc. the argument's] form. If it is necessary to refute one of the premises of the argument or to refute its form, then it is for him to bring forth a syllogism with which he refutes whichever of the two [premise or form] he intends to refute, and by which to oppose the questioner according to the method of declaration and not by the method of questioning. Whichever of the two the respondent refutes, his thesis is saved and, through that, criticism of him is withdrawn and the objection is met.¹³ The objection is (25) the syllogism with which the respondent brings forth the opposition to the premise whose acceptance the questioner demands.

¹¹ Cf. Aristotle, *Sophistical Refutations*, 165b7–8: “[C]ontentious arguments are those that reason or appear to reason to a conclusion from premises that appear to be generally accepted but are not so.”

¹² Aristotle, *Topics*, 158a7–8.

¹³ Cf. Aristotle, *Topics*, 161a3; Aristotle, *Rhetoric*, 1402b3ff; Aristotle, *Prior Analytics*, 69a37ff.

In dialectic there are places [*'amkina*] in which it is possible for the questioner to demand that the respondent accept something that the respondent refuses to accept, and which the respondent needs to oppose, and also where it is not permitted to demand that he [sc. the respondent] accept that which he refuses to accept, and which the respondent need not oppose. We will make clear later where these places are. However, the questioning with both premises and the conclusion together is not among the most successful [methods] in dialectic. Rather the most successful [method] in dialectic is the use of the method with which the questioner receives each and every premise individually, and then combines from them what produces [*yuntij*] the contradiction [*naqīd*] and opposite [*muqābil*] of the method [*madhhab*] of the one who is questioned; and hiding during his questioning the place of opposition [*al-taqābul*] and veiling it lest the one questioned be aware of it.¹⁴

¹⁴ Cf. Aristotle, *Topics*, 8.1.

(26)

<Dialectical Premises>

[5] Dialectical premises are universal and generally accepted. It is clear that their subjects are universal, because that whose subjects are individuals are lost, gradually, over the course of time, or [their subjects] disappear, and one does not know what state they are in after their disappearance from sense-perception. And along with that, it never happens that the perceptibles, according to the multitude, are in and of themselves one in number; [whereas] for the premises generally accepted by the multitude, it is necessary that what is understood of them be numerically one meaning according to the multitude.¹

[6] These premises and opinions are accepted and used without being tested, probed, and without it being known whether they accord with existing things or do not accord with them. But they are accepted insofar as they are opinions only, without [something] more being known about them than that all people believe that they are thus or not thus; just as, when what trust informs us of regarding something seen, we accept it and act as though it is the condition reported, without our having witnessed it in that condition; likewise when we accept opinions of people to whom we are favorably disposed and whose ideas and opinions we trust entirely (27) without our having known the standpoint from which they mentioned they themselves adopted. The more numerous those who inform us are, and the stronger our trust is in them, the likelier we are to acquiesce to their opinions, that which they witnessed, and about which they inform us. Our acquiescence [*sukūn anfusinā*] to them, our assent to them, and our acceptance of them increases in proportion to the increase in number of those who inform us about matters that they themselves witnessed and the opinions they believed. The limit of our trust in opinion from the standpoint of what is opinion is that it be the opinion of all the people.

Just as regarding the perceptibles there are things we ourselves perceive as others perceive them, and things regarding which we rely on what others perceived of them, and we are content with what others report of them [to us] without ourselves witnessing and perceiving it, and we use them in the way we use what we ourselves perceive and witness, so too is there a similarity regarding intelligibles, [where there are] things we ourselves know, that we accept by our own discernment [*baṣā'ir*] and that we assent to from the standpoint of our own knowledge; and we are content about things regarding which we rely on what others know of

¹ Cf. Aristotle, *On Interpretation*, trans. J. L. Ackrill (1963; repr., Oxford: Clarendon Press, 1989), 1.

them and what they opine about them, and we use them in the manner that we use things that we ourselves know, and we act as if the condition regarding them is like what was reported to us, namely, that it was thought about them and known about them (28) without we ourselves knowing anything more of them than that. And the opinion we rely on regarding the intelligibles is sometimes the opinion of one person only, or one group only, and it is received opinion. Sometimes it is the opinion of all the people, and it is generally accepted opinion. In general, the generally accepted premises which are the principles [*mabādī*] of the art of dialectic are those whose subjects are universal and which have indefinite [*muhmala*]² meanings; that is, universals which are trusted and accepted and believed to be like that, and which are used without anything else being known about them other than that.

[7] The certain premises which are the principles of the theoretical sciences are the universal premises which correspond with existing things that we accept, to which we assent and which each one of us uses from the standpoint of its certainty according to their correspondence with things, without any one of us relying on the testimony of another, or without relying on what someone else saw, or not caring whether someone else's opinion about it is similar to his or not. And if it happens regarding them that the opinion of the multitude is one opinion, and they testify to its correctness [*sihha*] and truth [*sidq*], then this neither adds to our trust, nor makes our certainty stronger. We also do not accept them or use them from the standpoint that the multitude formed one opinion about them, or that they testified to the correctness of that opinion, but rather by our own discernment. As for the generally accepted [opinions], (29) each one of us accepts them only when the opinions of all others are identical, and when they testify all together that it is thus or not thus. If it happens regarding them or many of them that they correspond with things, and we are certain by means of our own knowledge that they are thus, then we do not accept them or use them in the art of dialectic from the standpoint of our knowledge and our certainty in their accordance and agreement with things, since their notoriety is such that each proposition may only be composed in our souls according to a certain quality or quantity, nothing else. We ourselves then judge that their existence outside the soul is according to the quantity and quality that we find in the soul, without its notoriety [*shuhra*] being that which first and foremost helps and necessitates in itself its condition outside the soul. As for the known and certain [premises], science and certainty necessarily force and impose two

² See Aristotle, *Topics*, 120a6ff.

things [sc. quantity and quality] together in every proposition: and that is that it is necessary that it is combined in our souls according to some quantity and quality. It also follows that its existence outside the soul is according to this very quantity and quality. A proposition is not combined in the soul except according to the quality and quantity it has outside the soul. The known is true to the extent that it is essentially, and not accidentally, known. And the generally accepted [is true] to the extent that it is generally accepted, and the truth in them is true accidentally and not essentially.

(30) [8] The premises that are used as first principles are the received, the generally accepted, the sense-perceptibles, and the certain. However, from the beginning we do not distinguish the generally accepted from the certain premises. Rather, we use them both in the same way. Perhaps our probing [*sibār*] first of all is to validate the premises and opinions and to find that [the premises] are generally accepted and that the opinions are agreed on by them [sc. the people]. And that is because the first and certain premises are individuals whose subjects are sensed, and they are – to the extent that they are universal premises – generally accepted and first. Therefore it is necessary that we place the generally accepted [premises] as first [*awāʿil*] [principles] and that we order [according to them] the certain and common [premises] for all [the people] in their entirety. There are three varieties [*aṣnāf*] of premises that are used as first [principles] and that are distinguished from one another from the beginning: sense-perceptibles, received, and generally accepted.

[9] People always give priority to the sense-perceptibles and generally accepted over the received in point of dignity [*bi-l-sharaf*] and authority [*al-riʿāsa*]. They opine that the received should be tested and validated by the sense-perceptibles and the generally accepted. They opine regarding the generally accepted that they are more specific to man [*akhaṣṣ bi-l-insān*] than the sense-perceptibles since sense is common to us and the other animals, [while] they [sc. the generally accepted] belong to the intellect alone. [They opine also] that they are themselves the intelligibles, and that the proofs taken from the generally accepted are the proofs of the intellects. The sense-perceptibles are not used as principles [*mabādiʿ*] in dialectic because their subjects are individuals, except in **(31)** induction to validate universal premises that are individuals whose subjects are sensible, but which are not sensible premises. However, they are included among the generally accepted.

[10] The generally accepted [premises] are those which, little by little and gradually, first educate [*yatarabba*] (through their knowing and hearing) all the nations, raise their young, and civilize [*yataʿaddab*] their youth whether they realize it or not; and through which the meeting of different nations occurs despite the separation of their homes and differences in their natural character and languages; and through which there exists sociability [*uns*] between them; from which common actions between them originate, as well as the moral appreciation [*istiḥsān*] of what they approve between them. Among the generally accepted opinions are those that are preferred and praised by the many, as well as those discarded and rejected by the many, and that is the disgraceful opinion [*al-raʿy al-*

shanī]. Both are related to each other in generally accepted [premises] as truth and falsity are related in scientific propositions. For truth in science [*al-ʿilmiyya*] corresponds to the preferred and praised in dialectic, and falsity in science corresponds to the disgraceful in dialectic.¹

[11] These generally accepted opinions belong to them for all kinds of matters that are examined and through which their knowledge is acquired. The kinds of these things are three: theoretical, practical, (32) and logical.²

The theoretical are universal propositions all of whose particulars are not able to be the object of voluntary human action. The practical are universals all of whose particulars are able to be the object of voluntary human action. The logical may be used as instruments by which the theoretical and practical matters may be known. By them one guards against error concerning the intelligibles, and [they are that] through which truth and falsity in reports [*al-akhbār*] and speeches are tested. Among the generally accepted premises are: generally accepted premises regarding theoretical things, generally accepted premises regarding practical things, and generally accepted premises regarding logical things. The premises whose subjects are universal, if the particulars of these subjects are not able to exist except by the will of man, are practical premises. If, regarding the particulars of its subjects, there are things that may exist other than by the will of man, then these are counted among the theoretical premises – even if among their particulars something does exist by the will of man. However, each and every person – whenever he is only concerned with some of the kinds of matters – only uses the extent of the generally accepted [premises] that he needs and which are useful for that [type of] kind of thing with which he is concerned, to the extent of the generally accepted propositions with which he is concerned, and to which he becomes habituated and accustomed. Each person uses the generally accepted [premises] (33) he needs in one of two ways: he either uses them in the way they are, or he uses their strengths, their parts, and the actions that emerge from them.

¹ See 129.2, below. ² See 83ff., below.

(34) [12] [With regard to] the generally accepted [premises], since they do not tend to correspond to things, and [since] it is not among the conditions by which others are distinguished to be either true or false,¹ it is not impossible that there could be two opposing [*mutaqābilān*] speeches – contradictory [*mutanāqidān*] or contrary [*mutaḍāddān*] – that are altogether generally accepted, for it is impossible that they both are true. I mean by “contraries” [*mutaḍāddān*] here either two arguments one of which denies universally what the other universally affirms regarding the very same subject, or two arguments both of which universally affirm two contrary matters concerning the very same subject.² I mean by “contradictory” two arguments, both of which are truly contradictory.³

It is evident that it is possible to compose from the two contradictory premises (if another premise is added to it) two syllogisms one of which produces an affirmation of a thing regarding a certain subject, while the other denies that thing of the very same subject, and that one establishes what the other refutes. Likewise [the same is true] for two contrary premises one of which is affirmative while the other negative, if a single premise is added to them as well. As for two contrary premises one of which affirms the opposite of something that the other affirms regarding the very same subject, there may be composed from them two syllogisms one of which produces an affirmation of one of the two contrary things regarding a subject while the other affirms the other opposite regarding that very same subject, and that one of them necessarily establishes what the other refutes.

¹ Cf. Aristotle, *Topics*, 104b12–17, as well as 53, 102, 112.1, below.

² Cf. Aristotle, *On Interpretation*, 2 and 10. ³ Cf. Aristotle, *Prior Analytics*, 59b8ff.

(35) Therefore, the art of dialectic has the capacity to prove a thesis and to refute it, to compose two syllogisms for both parts of the contradiction [*al-naqīd*] together, and two syllogisms that prove together two contraries, and both syllogisms together are dialectical. And that is not possible in the certain sciences.¹

[13] Therefore, it is possible for there to be doubt [*tashkīk*] in the art of dialectic. Doubt is a formation of two syllogisms that produce two opposing conclusions. That is only [possible to the extent] that both are common to the minor premise, and opposed in the major [premise]. The reason for that is that it is not impossible for there to be, in the generally accepted and universal [premises], premises that are false in part² [and] whose falsehood is hidden because of the notoriety of their universals – I mean the notoriety of their predicates' existence belongs to all of their subjects – and which make their false part verified, accepted, and used like its true part. Therefore, its notoriety comes to confuse [its false part] with its true part so that its falsehood is not noticed. For the case of man from the outset is that he accepts as an absolute universal the premise [that] is true and present in many things when he does not know in what thing it is not like this. Therefore, many generally accepted [premises] may be opposed by a true objection without the notoriety of its universals being refuted by the objection; rather, only the truth of its universals is refuted, for it is not to the extent that they are true that they are generally accepted.

(36) If it is thus, then their opposites [*muqābilātuhā*], which are opposed to them, are true regarding what is false in them and false regarding what is true in them.³ If these opposites are generally accepted as well, two opposing premises (generally accepted and universal) are found, and if likenesses of these generally accepted [premises] are used as premises in syllogisms for the very same problems, then opposite conclusions are produced in the manner that their premises require.

Those who examine the things, if they investigate them by means of the generally accepted premises to the extent that they are generally accepted, are limited, in their opinions that they discover, to beliefs [*al-ẓunūn*] without certainty. If it happens that each one of them uses an opposite to the one the other uses, and neither notices the false part of each of the two [opposites], their opinions differ with regard to the same thing. If one man uses at a certain time the opposite [premise] of what he uses at another time, he changes from one opinion to another many times. If he

¹ See Aristotle, *Rhetoric*, 1355b29–37.

² Cf. Aristotle, *Topics*, 157b29–30: “Propositions that are partly false and partly true are of this type; for in the case of these it is possible by withdrawing a part to leave the rest true.”

³ The manuscript sources differ with one another and therefore the Arabic here is obscure.

uses them [sc. the opposed premises] all at one time, and according to him their power is one, he falls into perplexity and hesitation. Those who examine the things and seek in them the truth from these standpoints must either have contrary opinions, change from one opinion to another, or [fall into] perplexity. It is evident that this cannot occur when universally true premises are used from the standpoint that (37) they are true, because it is not possible to verify the two contraries [*al-mutaḍāddān*] together; rather, if one of them is universally true then the other is universally false.

(38) [14.1] It seems that it is not within the power we have by nature [*bi-l-fiṭra*] at the outset to attain for ourselves the primary true premises completely without noticing that falsity is mixed either in all or in many of them; and we do not have anything [else] at the outset with which we probe the primary premises, except [the fact that they are] generally accepted only. Also, there is nothing in the power of every individual to notice by himself the generally accepted and opposing [premises] together; rather, regarding each of the generally accepted and opposed [premises], it may be possible only for one [of two individuals] to arrive at one of them, and the other [individual] to arrive at the other [opposing premise]. It is also not within the power of everyone to notice all falsehood in each generally accepted and universal premise that is false in part and whose falsehood is hidden.

[14.2] It seems that the principles of examination of things and investigation of veracity and truth in them are generally accepted premises, since the notoriety that adheres to the soul is that which connects one of the two parts of the premise to the other – I mean the predicate to the subject – and by which assent occurs. Because of its notoriety, man takes from it what is connected in the soul by affirmation and according to a certain quantity that is also affirmed outside the soul and according to this very quantity. [He also takes] what is in the soul connected by negation **(39)** and according to a certain quantity that is also negated outside the soul according to this very quantity. If what is in the soul from among these opinions is universal, they are judged to be equally universal outside the soul. A person may use them while many of them are false in part though he does not notice their falsehood and [although] many of their oppositions are generally accepted as well to the extent that they are universal. Therefore he accepts them as certain though they are beliefs, and as universally true though only partially true.

[14.3] It is not within the power of each one to notice either the false part in the universal he knows, or each opposing part from every generally accepted and opposing [premise]. Therefore, the power of each one is not sufficient to oppose the false part of all false universals [whose falsehood] is generally accepted, or to save the amount of truth in it or to separate it from the false. If that is not possible, then it is also not possible for him to save the amount of truth in the conclusions that necessarily derive from it. Each of the opinions of those who examine – either all of them or many – remain true and are mixed with a falsity that is not noticed. If each of those who examines only notices of the generally accepted [premises] the opposite of what the other notices, and each one uses in his investigation

and examination only what he notices, then their opinions are certainly contrary (40) and contradictory. However, the power of every one individually is not sufficient to preserve truth mixed with falsehood, and distinguish the falsehood from it and reject it, since the preservation of truth and rejection of falsehood only occurs by opposing the false premise, and as yet he has not noticed the opposing premises with which he may oppose the premises he has.

[15] Every one of those whose opinions are contradictory either notice in their conviction a deficiency which causes them to doubt what they have, or they do not doubt and do not notice any deficiency but rather [think] that what they have attained is the truth that is not able to be otherwise.

If each of them suspects what they have and notices a deficiency in it, without coming to know with what his opinion may be opposed, or with what the premises that produced for him those opinions may be opposed, each one of them is forced to join with someone else from among those who examine. They meet to investigate, and one of them asks and the other answers. If not a single one of them notices a deficiency in his opinion, each one of them is content with what he has attained of science, and loves it, protects it, defends it, and competes with others about it. He opines in his soul that he has the virtue of priority [*faḍīlat al-sabq*] (41), and loves to teach others so that he will become through that the ruler of instruction [*ri'āsat al-ta'lim*], and his virtue in science will be recognized in the way that happens to people concerning other goods. Each one begins to falsify what others possess, and shows contempt for it as they strengthen and exalt what they possess.

They meet after that to contradict one another in rivalry and combat. Because of both matters, each one of them must join with the other individuals who examine and meet to investigate – either for protection, rivalry, legal defense, and partisanship, or to study the benefit, to preserve the truth from falsehood, to perfect science in each of them, and to remove the deficiency they notice in their beliefs. At that time they investigate together and each one of them reaches the limit of his capacity in investigating what he had deduced. Then he compares what he himself opines regarding something to what another opines regarding the very same thing, and he uses the power of another and seeks help from it. His examination of the syllogism of the one who opposes him regarding these things is like his examination of a syllogism – if it came to his mind – that requires the opposite of what he thinks regarding the thing. And the opposed syllogisms that are taken from a group of people of different opinions are of the same rank as the opposing syllogisms that he himself has. Many groups help one another in examining this and assist one

another in (42) preserving the true from all premises and from all conclusions. That only occurs through objections they put to each other and in some contradicting others. It is necessary for each one – if they meet each other – that one of them be a questioner and the other a respondent, so that each one of the two attains the limit of his capacity regarding that thing, and that they make every effort in their exertion to procure that which refutes and proves the opinion that they use as a thesis. If they do not meet regarding what they establish of this, they establish it in books. Each one continues [to act] with the other in this way regarding everything over which their opinions differ, bringing up objections and contradicting one another, either orally or by establishing it in books.

(43)

<Philosophy, Dialectic, and Sophistry>

[16] This is the condition of what remains of the opinions that have been memorized and written down in books concerning the opinions of those who preceded [us]. That is, those who followed afterwards contradicted those who preceded them, and because they desired science their methods used in questioning and answering were mixed with dialectical methods and scientific methods, and these were used without one being distinguished from the other.¹ Whenever the objections and contradictions increased and were debated from one time to the next, and the time passed, and they devoted themselves to it, they were closer to distinguishing truth from falsehood regarding every universal premise in which truth was mixed with falsehood, and closer to knowing all problems and syllogisms for every problem, and closer to arriving at the scientific methods.

If this debate is not out of solidarity [*‘aṣabiyya*] or a legal defense of the opinions, the questioner and respondent are praiseworthy if one of them proceeds to refute what is true for the other; and the benefit is for both and the victory is for both together. If (44) that occurs from the standpoint of the rivalry over verifying the opinions and combating over them and competing over them, then the victory goes to one of the two only; and a thorough examination by each one concerns that by which his own opinion is helped and proved, and that by which he falsifies and opposes the other's opinion more frequently and more strongly, and he is [then] closer to distinguishing the true from the false, and closer to discovering all the theoretical things until he has them all.

At that time the contentious [*jihādiyya*] deliberative arts emerge, that is, those with which one intends, through discussion [*al-mukhāṭaba*], to learn of the virtue of the faculty of man to refute something and prove it. That is either out of love of victory only and the honor that follows it, or out of another good from among the human goods. If that happens, it is not impossible for the contentious arguments [*al-aqāwīl*] to become dialectical and sophistical. The dialectical contentious discussion is the discussion by which victory is sought by means of generally accepted premises that are truly generally accepted. Sophistical contentious [discussion] is that by which victory is sought by using premises that are apparently generally accepted without being in truth generally accepted, and via things that deceive and misrepresent so that one is led to believe that what is not generally accepted is generally accepted, and that what is generally accepted is not generally accepted.

¹ See 55–62, below.

(45) [17] There are three kinds of sophistical arguments that emerge: (1) among them are speeches whose forms are syllogistic and whose premises are apparently generally accepted without being in truth generally accepted; (2) among them speeches whose forms are not in truth syllogistic and yet are believed to be syllogistic, and whose premises are generally accepted in truth; (3) among them speeches whose forms are apparently syllogistic and whose premises are apparently generally accepted without that being the case in truth.

The first of these three kinds are called “syllogisms” because of the truth of their forms, while the remaining two are called “eristic” and “eristic arguments” and are not called “syllogisms.” In general, whenever their forms are erroneous, they are not called “syllogisms,” even if their premises are true. Sophistry is an art by which man acquires the ability to construct a syllogism in truth from premises that are apparently generally accepted, or what is believed to be a syllogism from truly generally accepted [premises] or, from [premises] that are believed to be generally accepted, an argument that is believed to be a syllogism by which is sought a refutation of everything the respondent seeks to preserve and to preserve everything that the questioner seeks to refute.²

(46) [18] The scientific syllogism, that is to say, demonstration, is the syllogism composed from premises that are true, universal, certain, and primary, or from premises whose knowledge is from premises that are true, universal, certain, and primary. The philosophic sciences – that is to say, the certain [sciences] – always use in the elucidation of all its problems the scientific syllogisms we have mentioned. The mixed method we mentioned was the method of those who devoted themselves to philosophy in ancient times until the three methods were distinguished from one another and were divided into “scientific,” “dialectical,” and “sophistical.” The scientific methods [then] arose. The scientific art became the intended end, and the dialectical art became an exercise and a preparation for it and a tool and a servant of the scientific art. Sophistry remained an imitation and resemblance of dialectic. It is thought to be dialectic [sometimes] and sometimes it is thought to be philosophy.

[19.1] The subjects of the three arts are the same and their problems are identical. They differ [only] in regard to ultimate ends and principles.³

² See Aristotle, *Topics*, 100b23–101b4, and Aristotle, *Sophistical Refutations*, 165a38–165b11. Cf. *ibid.*, 171b7–34.

³ Cf. Aristotle, *Metaphysics*, 1004b18–27: “[D]ialecticians and sophists assume the same guise as the philosopher, for sophistic is wisdom which exists only in semblance, and dialecticians embrace all things in their dialectic, and being is common to all things; but evidently their dialectic embraces these subjects because these are proper to philosophy.

(47) The ultimate end of philosophy is ultimate happiness. The ultimate end of dialectic is for man to acquire the faculty for investigation and to prepare his mind for philosophy and to enumerate its principles and problems. In general, the end of the art of dialectic is to support and to serve the art of philosophy. The ultimate end of sophistry is to make someone imagine that he has science and wisdom and that he is seeking after ultimate happiness. The deepest concern [*dāmīr*] of the one who instills such imagination and his secrets and goal in the innermost part of his soul is to attain for himself money, honor, glory, or other things from among the ignorant goods.⁴

[19.2] They also differ in [their] principles. For the principles of philosophy are the premises that are universal, true, certain, and primary. The principles of dialectic are the universal and generally accepted premises that we defined. The principles of sophistry are the universal premises that deceive by means of the things that are apparently believed to be generally accepted without that being the case in truth. [They are also] universal and generally accepted premises that are partially false, for, as we said, their notoriety hides their false part, and because of that it is difficult, at the outset, to save its true part.

(48) The certain, universal, and primary premises all amount also to being generally accepted. At the outset, they are acknowledged to be generally accepted as such without them being examined by something else and without one requiring that they satisfy the conditions mentioned in the *Book of Demonstration*. Therefore they are accepted in dialectic and in the arts from which nothing more is required than that they be generally accepted as if they are true and certain by accident. If that is so, then the syllogisms that emerge from them supply us in their conclusions with beliefs, except that the beliefs are true accidentally and not essentially. [As for] the premises that are universal, generally accepted, and partially false whose notoriety hides their falsehood, it is evident that the syllogisms that emerge from them supply us in their conclusions with false beliefs. It has already been made clear from what we said what the principles of true beliefs are and what the principles of false beliefs are. As for the premises that are apparently generally accepted and are not generally accepted and are not certain yet were falsified until they were believed to be generally accepted, they are falsified by other things until they are made to be generally accepted, and these things are enumerated in the *Book of Sophistics*.

For sophistic and dialectic turn on the same class of things as philosophy, but this differs from dialectic in the nature of the faculty required and from sophistic in respect of the purpose of the philosophic life. Dialectic is merely critical where philosophy claims to know, and sophistic is what appears to be philosophy but is not." Cf. also Aristotle, *Rhetoric*, 1355b15–21.

⁴ Cf. Aristotle, *Sophistical Refutations*, 171b25–34, and Alfarabi, *Book of Religion*, beginning.

At first, the falsehood in the principles of dialectic are quite hidden, and are not made evident except after great examination for a long time because of their notoriety and the testimony of the multitude about them, namely, that they are thus. (49) It is also hidden in the principles of sophistry, [however] not because of their notoriety but rather due to the things that obscure its shamefulness and the renown of its falsehood, until what is not generally accepted is made to be believed to be generally accepted and regarding what is generally accepted of falsehood and discarded by the many is generally accepted [as if] true and preferred by the many; and regarding what is preferred and praised is made to be believed to be shameful [*shani*] and discarded.

Since the hiddenness of the falsehood in the principles of dialectic is due to things that apply to the multitude – and that is their [sc. the principles'] notoriety and the testimony of the many about them – and the hiddenness of the falsehood in the principles of sophistry is neither due to things that apply to the multitude, nor in relation to the multitude, one quickly and with little examination becomes aware of the falsehood in the principles of sophistry, while one does not become aware of the falsehood in the principles of dialectic except after much examination.⁵

All that is found in dialectic is found in sophistry. That is because everything that is in dialectic in truth is the very thing that is in sophistry by falsification. Therefore, a sophistic inquiry and response is similar to a dialectical response and inquiry; and sophistic doubt [*tashkīk*] resembles dialectical doubt; and sophistic criticism and objection resemble dialectical criticism and (50) objection. However, all of this is in dialectic in truth while it is in sophistry by falsification, since dialectic uses syllogisms in truth and premises that are truly generally accepted. The sophistic premises may be believed to be generally accepted but are not thus, and likewise their syllogisms may be believed to be syllogisms but are not syllogisms. However, there is nothing in dialectic that is believed, but rather [it uses] a syllogism in truth and premises that are truly generally accepted.⁶

⁵ See Aristotle, *Topics*, 100b26ff.

⁶ Cf. Aristotle, *Metaphysics*, 1004b25–27: “Dialectic is merely critical where philosophy claims to know, and sophistic is what appears to be philosophy but is not.”

(51)

<2><The First Use of the Art of Dialectic>

[20.1] Dialectic is useful for philosophy in five ways:

Among them is to train the person and prepare his mind for the certain sciences. And that is to habituate him to investigation and make known to him how to investigate, and how one must order the things and organize the arguments for the investigation in order to resolve the problem. His mind obtains the facility in [discovering] the occurrences of the middle term and makes him able to find quickly the syllogism for whatever problem is posed. It provides him with the faculty to oppose every opinion he hears or is said to him, and to pursue quickly the places of opposition in every argument that occurs.¹ It habituates him to be dissatisfied with unexamined opinion and what imposes the first idea, previous thoughts, and the consideration of the appearance without thorough examination and careful research. It puts him in the condition of someone who does not take sides in favor of an opinion and is not at all carried away by an argument and does not [give in to] good belief or desire or solidarity (not in his soul nor in someone else's), and does not feel at home in his own opinion or someone else's opinion to the point that he is content in it. Rather (52) [it is for him to doubt] his own opinions (to the extent that they are opinions with some form) [whether] they are false or erroneous. It compels him to test the received opinions that he encountered at first, by which he was educated, and to which he was habituated, until it may happen that many people are many times brought to doubt the sense-perceptibles, and to test them just as it occurred to Parmenides and Zeno² such that they said regarding movement that it does not exist and that multiplicity does not exist, and that that which exists is one. They opined that [it would be better] to follow what the generally accepted [things] (which are the intelligibles according to them) require, and to doubt sense-perception, since the intelligibles are more specific to man than the sense-perceptibles.

[20.2] Without a person's mind being trained in this way or possessing this faculty in him, he may not proceed to the truth and the philosophic opinions. That is because that with which a person is raised and understands first of all are generally accepted opinions that are (according to unexamined opinion) preferred by the many, as well as the received opinions and the sense-perceptible opinions. The received [opinions] are such that they are not in man [by virtue of] his own insight, and he

¹ See Aristotle, *Topics*, 101a28–30. ² See 88 and 135, below.

only trusts what he receives of that from the insight of another whose opinion about it [he judges] is sound. (53) It is not possible for him to arrive at a scientific opinion, or for that opinion to be his own insight. It may be for him his own insight only by means of attaining, regarding that, a syllogism composed from premises that were already known to him from the outset, and by which it becomes for him his own insight – neither from a syllogism nor a proof at all. At first these are premises taken from widespread, unexamined opinion. Unexamined opinion is that which is not considered. Therefore it is not impossible for there to be a falsehood in it that is not noticed by someone. One is therefore also obliged to test it and consider it, and its consideration and testing are not possible without opposing it, and that is not possible except by the capacity to discover the places [*mawāḍiʿ*] of opposition, which is not possible except by the art of dialectic.

[20.3] The art of dialectic is that which gives a person this faculty. Therefore, it is not possible for man to arrive at the truth or philosophy except by the dialectical faculty. Therefore, we find Aristotle also, at the beginning of his arguments about most of what he seeks to clarify with regard to the natural, divine, and political science, prefacing them with dialectical arguments and dialectical examinations of those things so that, when he completed it, he came after that to the presentation of the demonstrations of that thing.

(54) For this reason, Plato, in the book *Parmenides*, reported that Parmenides recommended to the young Socrates with whom he was arguing: “Train your soul while you are still young regarding things that, according to the many, are madness, excess, and much chatter; otherwise the truth will escape you.”³ He meant: “Train your soul through dialectic and dialectical arguments.” And the proof that he wanted to say by it “dialectic” and “dialectical arguments,” is that when he [sc. Parmenides] recommended this and urged him [sc. Socrates] towards this, he afterwards began to consider and investigate the One with him in dialectical arguments in accordance with the method of doubt, and began to prove and then refute from the standpoint of the art of dialectic. So this is the first use of dialectic in philosophy.

³ See Plato, *Parmenides*, 135d.

(55)

<The Second Use of the Art of Dialectic>

[21] Among them is that it prepares, provides, and enumerates for the certain sciences all of their subjects.¹ It enumerates for them all generally accepted premises, that is, the sum of those that supply the true, universal, and primary premises which are the principles of the certain sciences. It enumerates for them also all of the problems, and they are the propositions that are outside of the generally accepted [premises], those by which, through their proof and refutation, dialectical syllogisms are made. It enumerates for them all of the dialectical reasonings that come from these problems, and makes all of them available in fact. It provides man with the capacity to make them and evoke them whenever he desires. When all of this occurs, it only remains after that to test and examine by the demonstrative and scientific laws and conditions that were mentioned and enumerated in the *Book of Demonstration*. The conditions of the universal, certain, and primary intelligibles that apply to the generally accepted [premises] are made to be the foundations [*awāʿil*] of the certain sciences. As regards the conditions of the problems in the sciences that apply to the generally accepted [premises], these generally accepted [premises] that are the principles in dialectic become problems in the certain sciences. Likewise, we consider the problems that are given by the art of dialectic, and we test [them] with the conditions of the demonstrative problems and their rules; (56) those conditions that apply to them also become problems in the sciences. In this way, we test the syllogisms that the art of dialectic provides, and the conditions of demonstration that apply to the reasonings are made to be demonstrations.

In general, everything dialectic gives and enumerates, if the rules and conditions of science apply to it, that thing becomes common to both arts together, and when nothing of the conditions of the matters of science apply to it, it remains special to the art of dialectic and is used especially for training only.

This is the second use.

¹ See Aristotle, *Topics*, 101a34–36; cf. also *ibid.*, 163b9–12.

(57)

<The Third Use of the Art of Dialectic>

[22] Among them [dialectic's uses] is that the certain sciences are of two types.¹ The subjects of one type lead the person who examines and investigates them to the right way [*al-ṣawāb*] by the ease with which the mind [grasps] them and how quickly they are separated in the soul from the accidents associated with them, because they are easy in themselves, and because the person imagines them and forms them free from matter without the person needing to exert much effort in doing so. Those are the mathematical sciences. The subjects of [the other] type prevent reaching the right way because of the difficulty in separating them from matter in the mind; rather, they are not separated and are always comprehended along with their matter and in their matter. Therefore, it is not impossible, if there are many accidents in the matter, for these accidents to be connected to them when we comprehend them. Those who examine err regarding the truth about these things; and the one thing is imagined by those who examine in opposing ways: they fall into opposing beliefs.² They contend with one another over the opinions and become perplexed because of it. Since the meanings in the soul are not separated and free from matter and from accidents that are connected to it, their universals are not separated in the primary premises at the outset because the intelligible things, (58) when they are not perfectly distinguished from one another in the soul, are each preserved in the mind by its proper nature. Separately, its subject is not separated like a subject belonging to the predicate that is in it universally and perfectly; rather, there remains a place for a kind of condition or conditions. And that [sc. the condition] is used from the outset as much as is possible for man in the separation until objections appear after that, and then it is separated.

[23] Also, the [following] concern: where matter is connected to it or one of the accidents, or its conception is difficult – or not possible – without matter or without these accidents, it is possible that it is predicated of that thing to the extent to which it is isolated by its nature as a sort of predicate, and if it is taken to the extent that it is described by that matter, its predicate becomes the opposite of [the first's] predicate.³ If that thing is not distinguished for us to the extent that it is separated from itself, and to

¹ Alfarabi here appears to depart from Aristotle's strict rendering of the uses of dialectic as found in the *Topics*. Cf. Aristotle, *Sophistical Refutations*, 172a15ff., and Plato, *The Republic of Plato*, trans. Allan Bloom, 2nd ed. (New York: Basic Books, 1991), 534b.

² Cf. Plato, *Republic*, 523b; and Alfarabi, *Selected Aphorisms*, in *The Political Writings: Selected Aphorisms and Other Texts*, par. 94.

³ Cf. Plato, *Republic*, 479b–c.

the extent to which it is connected to matter, and we take it in one condition, two opposing predicates are attached to that one thing. Likewise, if a certain accident in the matter is attached to it, and its separated essence is not for us distinguished from its essence connected to that accident – because of these two states – two opposing predicates are attached to it. Likewise, two opposing predicates are attached to that thing if connected by two accidents, and attached to each one of the two accidents is a predicate opposed to the predicate that the other is attached to, and we take that (59) thing to the extent that it describes one of the two accidents in the condition by which we take it to the extent that it describes the other accident – and its state is that which encompasses the two accidents and comprises the two of them, and in which the two accidents are enclosed in such a way that we do not distinguish each one of the two from the other. If the generally accepted premises that we have in these sciences are generally accepted and known from the outset and in unexamined opinion, and we use them as major premises to which we attach minor premises, it is surely the case that contrary and contradictory conclusions are produced for us.

[24] These sciences, the condition of whose principles is this state, are: natural science, divine science, and political science. Also signifying that are those mathematical sciences which are closer to natural science, such as the science of optics and the science of music and the science of mechanics (for these are closer to natural science than arithmetic and geometry). Each one of them, in itself or its principles, is closer to natural science with regard to difficulty and [the capacity to engender] disagreement. As for arithmetic, since it is the farthest removed from natural science, there is nothing in it at all difficult, and as a result there is no disagreement about it. As for geometry, in some of its principles there is some difficulty commensurate to its inferiority to the rank of arithmetic regarding the distance (60) from matter. Then the science of astronomy is much more difficult than geometry, and the disagreement in it is greater. Then [follows] the science of optics. Then after that [follows] the science of music and the science of mechanics, and especially in the principles of this [sc. the science of mechanics]. And the reason for all of this is what we have said.⁴

[25] Therefore, it is not possible to discover the truth in these three sciences [that is, natural science, divine science, and political science], unless dialectical doubt precedes their examination by the scientific method. When one uses a science for them from the outset without

⁴ Cf. *ibid.*, Book 7.

dialectical doubt, either nothing is reached or, if something of it is reached, it is very defective. That is because the majority of what is found in these sciences are either things connected to matter or connected to accidents, or such that knowledge of it is connected to it in such a way. Therefore, opposites are found together with this. Since it is dialectic that supplies for every one the existence of two contraries, and it is that by which one is able to find two contrary syllogisms (since demonstration or the demonstrative art is not able to offer us the contrary syllogisms, or clarify for us the existence of two contrary aspects regarding the same thing), the investigation into these things is not possible by means of the demonstrative art. And along with that, because the art of demonstration only dispels the doubt by supplying the ways because of which contrary predicates are connected to the same thing, so that the contrariety disappears from that which is believed to be contrary, (61) and [because] the demonstrative art is not able to supply the ways in which contradictions in arguments disappear before we are aware of them, the art of dialectic that supplies the contradictions must necessarily precede the art of demonstration that supplies ways which put an end to doubt and perplexity.⁵ Because of this, we rarely find Aristotle discussing something in his books about these sciences before prefacing the thing he seeks to demonstrate with dialectical doubts, and then completing it with demonstrations. Because of this, Plato, when [he discussed] the education of the kings of the virtuous city and the philosophers, placed dialectic after mathematics and before the three other sciences.⁶

⁵ See also *Tafsīr Mā Ba'd al-Ṭabī'at* [*Averroes' Long Commentary on Aristotle's Metaphysics*], ed. Maurice Bouyges, S. J., vol. 1 (Beirut: Imprimerie Catholique, 1938), 324–330, and especially where Averroes mentions *al-falsafa al-jadaliyya* (or “dialectical philosophy”) at 328–330.

⁶ Cf. Plato, *Republic*, Book 7, 521ff. and 534e.

(62)

<The Fourth Use of the Art of Dialectic>

[26] And among them¹ is that the principles of the certain sciences – since they are universal – have been comprehended from the outset, [yet] many or the majority of them are only neglected and not used from the outset due to the [fact that] man is assisted from the outset with that through which he is educated in his youth until he arrives at the third seventh [of his life];² and through the other arts in which these intelligibles are not to be used, since they are not principles for them, nor are they useful for them, since not every intelligible is a principle for every art. Someone may use many of them – those with which he is preoccupied – but he does not use them in that they are universal, rather, he uses their powers and particulars. He does not need to use them as universals to the greatest amount of generality possible, and he is content with their powers, since they are sufficient in these arts and the things with which he is preoccupied. Also, universals similar to these primary premises remain neglected, and it is necessary, regarding those [that are] similar to these principles, for the one who arrives at the sciences to understand their universal meanings. It is not impossible that he not acknowledge their universality, since he does not represent them as universal. In order to know them, it is necessary for him to examine thoroughly the particulars that (63) he uses customarily regarding the things with which he preoccupies himself, and the particulars that it is customary for the other people of the arts to use. Therefore, represented in his soul are universals of the powers that it is customary for him to use (and the thorough examination of similars is characteristic of dialectic), or he provides their generally accepted definitions or descriptions so that, if he understands their meanings, he arrives at the certainty about them like his certainty about their particulars.³

[27] Also, one begins to know many things only by means of the primary knowledge that occurs to man in the unexamined opinion of all. If this [knowledge] is considered, something that opposes this knowledge may be found, and then the opposition that he finds reminds him of the knowledge of something that he had neglected in that matter. Then he considers that and also finds, because of the knowledge of more than what the first objection had provided him, another objection. The second objection reminds him of the knowledge of a thing that he had neglected.

¹ Alfarabi once again appears to depart from Aristotle's strict rendering of the uses of dialectic as found in the *Topics*. Cf. Aristotle, *Posterior Analytics*, 100b3, and Aristotle, *Metaphysics*, 1005b24.

² Around twenty years old. Cf. Plato, *Republic*, 537b, and Ibn Ṭufayl, *Ḥayy Ibn Yaqẓān*, trans. Lenn Evan Goodman, 3rd ed. (Los Angeles: Gee Tee Bee, 1991), p. 118.

³ Cf. 125, below, and Aristotle, *Topics*, 157a18–20.

That continues like this in this organized manner until all that he must know of the matter of that thing comes about. It is not possible that this [sc. education of the youth] proceeds according to this organized manner by any art except the art of dialectic. Thus, regarding many things, the art of dialectic in this way offers the principles of study.

(64) [28] Also, there are two types of demonstrations: one of them is absolute and the other relative.⁴ The absolute [type] is that which in its essence offers absolute certainty. The relative [type] is that which is demonstrative in relation to a certain person or group. It is not possible for demonstrations to proceed from the principles of the certain sciences in relation to a certain group or in relation to a particular person, since that very man or that very group does not acknowledge these principles – since there are things there that deceive that very person. The demonstrations that are in relation to a certain person are composed only from generally accepted things that no one is without – as is the case with his opinion. These demonstrations are syllogisms taken from the art of dialectic. In this way, dialectic may also be of use for the principles of the certain sciences, for it is not impossible that there will be those who doubt things that are apparent and obvious in themselves – in the way that we find people who do not acknowledge that two opposing things cannot both be true;⁵ in the way that people deny that anything moves itself, or others who acknowledge that which moves itself yet deny movement. The demonstrations by which movement and the self-moving thing are established according to them, and that two opposing things are not both true, these are the demonstrations in relation to them, and are only from generally accepted premises. Likewise, the discussion with the person who denies the existence of multiplicity, and seeks to make evident that existence is one, (65) may only take place through syllogisms composed from generally accepted premises. For this reason Aristotle, at the beginning of the lectures of the *Physics*, said when he wished to begin to discuss [the thesis of] Parmenides: “we are conversing with the dialecticians, for in their discussion there is a kind of philosophy.”⁶

⁴ See Aristotle, *Sophistical Refutations*, 165b4–7.

⁵ Cf. Aristotle, *Topics*, 8.5.30–35, and Aristotle, *Metaphysics*, in *The Complete Works of Aristotle: The Revised Oxford Translation*, ed. Jonathan Barnes (Princeton: Princeton University Press, 1984), 1005b23–25: “For it is impossible for anyone to believe the same thing to be and not to be, as some think Heraclitus says. For what a man says, he does not necessarily believe.”

⁶ See Aristotle, *Physics*, 185a18–20. See 88, below, for another reference to Parmenides. See also Averroes, *Tafsīr Mā Ba'd Aṭ-Ṭabī'at* [*Averroes' Long Commentary on Aristotle's Metaphysics*], 167. In this same context, Averroes will speak of “the science of dialectic” (*li-ilm al-jadal*).

(66)

<The Fifth Use of the Art of Dialectic>

[29] Among them is that we [philosophers] are political by nature.¹ It is necessary for us: to live in harmony with the people, love them, and prefer doing what is useful to them and leads to the betterment of their condition – just as it is necessary for them to do the same regarding us; to make them share in the good whose care is entrusted to us – just as it is necessary for them to make us share in the goods whose care is entrusted to them – by showing them the truth concerning the opinions they have about their religions, for when they share with us in the truth, it will be possible for them to share with philosophers in the happiness of philosophy to the extent of their ability; to move them away from the arguments, opinions, and laws [*ṣunan*] about which we opine that they are not right. This is not possible with them through certain demonstrations because these are beyond their reach, are strange to them, and are difficult for them. That is possible only through the knowledge that is common to us and them – that is, in that we converse with them by means of arguments that are generally accepted among them, known to them, and accepted among them. This class of instruction results in the fourth philosophy,² which is known as exterior (*khārīja*) and public (*barrāniyya*) philosophy. Aristotle mentions in many of his books that he produced books on exterior philosophy in which he sought to instruct the people (67) through generally accepted things. The faculty [to practice] this art of philosophy arises in us only by the generally accepted [things] being ready and available to us, and we only arrive at that by the art of dialectic. Through it the philosopher associates with the people and becomes protected so that he is not found burdensome or engaged in an objectionable matter; for the people are in the habit of finding what is strange to them burdensome and what is out of their reach objectionable.³

[30] Among them is that not one of the people of the scientific arts is able to reject – by the faculty that he derives from his art – sophistical arguments that he criticizes and opposes in his art, or to resolve sophistical doubts that are intended to lead the adherents of this art into perplexity, to silence him and falsify his art and humiliate him. Only the dialectician – and he alone – is able

¹ For this passage, cf. Muhsin Mahdi, “Man and His Universe in Medieval Arabic Philosophy,” in *L’homme et son univers au moyen âge*, ed. Christian Wenin (Louvain-la-Neuve: Éd. de l’Institut supérieur de philosophie, 1986), 112–113.

² Cf. Alfarabi, *Kitāb al-ʿAlfāz al-Mustaʿmala fī al-Mantiq*, 60.

³ Cf. Aristotle, *Topics*, 101a3–34; cf. also Plato, *Republic*, 519d–520a. See also 66, below, and Alfarabi, *Book of Religion*, pt. 6.

to meet sophistical arguments. Therefore, the art of dialectic is also the protector and defender of philosophy against the sophists.⁴

[31] These are the uses of the art of dialectic in philosophy. Dialectic is a kind of training for man through his association with others. Through it, man is prepared for the certain sciences. It (68) is also an introduction for the theoretical beings because, by this [discipline], certain science is taught. It serves the certain sciences by providing their principles according to the methods that were indicated. It serves them also by providing them with the arguments by which it is easy to teach the people about those opinions deduced from the certain sciences which are useful for them (and are moved away from that which we do not see them properly discussing) and from those opinions that harm them. It serves them also by protecting them from the sophists.

⁴ Cf. 21, above, and Aristotle, *Sophistical Refutations*, 168b6–10.

(69)

<3><The Perfection in the Art of Dialectic>

[32] Since dialectic is a kind of training, then the art of dialectic is a training art like the other arts that are exercises and introductions to other things, like fighting, running, fencing, and the other training arts whose actions are compared between the powers of the exercisers.¹ There arises in it rivalry and seeking after victory, each one increasing after the other. Victory, the love of it, and the pleasure that emerges from it in man become a cause of the improvement of the art, the increase of training, and the preparation of the things through which victory and its increase come about. The pleasure that emerges from it becomes a motive and incentive for it along the lines [that] the pleasure from a certain action is an incentive for repeating the things from which the pleasure emerged.

There is a great difference between (a) the achievement of victory and pleasure as an ultimate end, and (b) seeking to improve the actions from which this victory and pleasure emerge. (70) Because the training that emerges through cooperation is such that it is not attained except by diligence in the actions and things by which victory emerges, and [because] victory and longing after it is that through which the training actions are improved, victory becomes – whenever achieved – the cause of the repetition of similar actions through which victory emerges. When it is not attained at a certain time, the longing for it becomes the cause for the repetition of these actions and their improvement and increase. It is in this way that the issue of victory must be understood in the art of dialectic: not to regard the achievement of victory as the ultimate end, or another goal, except as that which leads to the improvement and longing for the dialectical actions useful for the sciences.²

[33.1] Since this is the case, the perfection of man in it [sc. dialectic] is like his perfection in the other training arts by which victory is sought. That is to [understand] how man [must] know all the things by which victory over an adversary comes about; that he possesses along with that a faculty for improving their use over the adversary, whether as a questioner or a respondent; and that the two adversaries are equal in the art and faculty, or at least very close [to each other in this regard]. If there is an apparent disparity between the two in terms of virtue, the discourse of each is bad and weak. The more virtuous one (71) strives to instruct the weaker, and his discourse becomes confused and bad and beneath his faculty. The weaker one strives to take upon himself what he is not able to; as a result, he arrives at what he does not understand, so his discourse becomes

¹ Cf. Aristotle, *Topics*, 161a37–161b2. ² *Ibid.*, 159a30–33.

confused and bad. The two of them then abandon the goal that they strove after, which was training and the preparation of the mind for the sciences.

[33.2] If they are equal in the art or close to one another, [then] the imbalance of their arguments, the relation between the two of them, the seeking of each one of the two adversaries for victory over the other does not occur over that which they are equal but, instead, over the disparity that may still be found between them despite that. That is [the result of] [1] either the excellence of the disposition that exists by nature and natural intelligence, or [2] what may occur to one of the two adversaries at the moment of the discourse due to negligence, [in the same way] that the respondent does not notice the place of opposition or the place of necessity, and he ignores and surrenders everything that is of use to the questioner without being aware of it. So he is ultimately criticized [*tabkū*] and reduced to silence,³ or he notices and does not surrender [anything] and does not offer to the questioner the criticism he wants and [the respondent] is not reduced to silence. [3] What may occur in the argument is due to increase or diminishment or lack of preservation in it or indulgence, either due to the distraction that accidentally happens to occur at the moment, or the immoderate confidence of the individual in himself. This is like the way Thrasymachus was with Socrates⁴, for he, (72) due to his immoderate confidence in himself, surrendered everything that was asked of him [because he thought] that he would be able to repel all that follows, and that his adversary would be ignorant of the fact that he does not notice the place of necessity. Thus he was always reduced to silence at the hands of Socrates.⁵

[33.3] Also, among the generally accepted [premises] that the questioner seeks to obtain from the respondent and that the respondent opposes, a true opposition may be put forth. Among the excellent uses of things similar to this with the adversary is to use what hides the places of opposition in them, and struggle over that, as well as to use the things that Aristotle speaks of in his book about dialectic. It is not impossible to hide that from the adversary [so that] he ignores it and is neglectful of it and becomes careless. His discourse [sc. the interlocutor's] arrives at what he wants from him – whether he is a questioner or respondent. When it is thus, it is possible that each one of the adversaries, whether equal or close to each other in the art, is victorious sometimes, defeated

³ Literally, “cut off.”

⁴ See Plato, *Republic*, Books One and Two, and Alfarabi, *Philosophy of Plato*, sec. 36; cf. also Alfarabi, *Kitāb al-Alfāz*, sec. 63.

⁵ Cf. Aristotle, *Topics*, 158a, and Aristotle, *Sophistical Refutations*, 175a17–30.

other times, and other times equal to the other. The two are equal only if they arrive at the condition that Aristotle mentioned in the third chapter of the book, *Topics* [Ṭūbīqī].⁶

(73) [33.4] Therefore, it is not the perfection of the person in the art of dialectic always to triumph, nor is it a fault for him in it to be defeated sometimes. Rather, perfection in it is not to neglect anything at all, or only a little of that which he brings forth to reach his goal in each and every dialectical thesis, whether a questioner or a respondent brings it forth. If he is a questioner, [this means] striving to bring forth anything by which the thesis is refuted, and if [he is] a respondent, [this means] striving not to accept that by which the thesis is refuted, to oppose that which opposes what the questioner brings forth, and never to perform actions that make known that he does not bring forth the thesis because of him or because of the weakness of his faculty.

If he behaves like this, he has fully granted the art its truth. If he is defeated after fully applying himself and having brought forth everything recommended by the art, that is not due to his deficiency in it [sc. dialectic], and he does not have anything more than that. For it is certainly not for him always to emerge victorious.

(74) [34] That is similar to the way the issue stands in the other training arts and in rhetoric, and the commanding of armies, and the art of the governance of warfare, and in medicine, and agriculture and navigation. For it is not for the doctor to heal absolutely, but it is only for him to bring forth for each sick person whatever the art requires him to do, and to strive after that; and there is nothing more than that for him. If he follows [these rules], recovery [follows]. If it is not so, it is not due to his deficiency in medicine. Likewise, it is incumbent upon the navigator only to act each time in a manner that allows him to rescue the drowning person, and nothing more than that. Likewise for the farmer regarding what he sows and plants. And likewise the commander of armies regarding those he combats.

The condition in this [art] is not the condition [that is found] in carpentry, weaving, shoemaking, or tailoring, for it is for the carpenter to complete the making of the door, and the weaver to complete the weaving of the garment, and for the shoemaker to supply the completed shoe. It is not for him to perform praiseworthy actions, then stop and not act and look closely at the completed goal as it is in medicine and in navigation and the commanding of armies, and, in general, [in] the arts

⁶ See Aristotle, *Topics*, 101a5–10; cf. also Aristotle, *Sophistical Refutations*, 175a26–29.

where those who engage in them need to reflect on each and every thing they do so that, by doing so, they achieve (75) their goal.⁷

[35] [Because] every art that requires reflection in order to reach its goal is deficient [in proportion to] the increased need for deliberation in it, whenever it is closer to being self-sufficient, the need for deliberation in it is less. Aristotle calls those arts that are like this “faculties,” since their ends may or may not follow their actions. Its ends follow when nature – or another one of the causes – supports the art, so that it is not possible to enumerate its actions that are performed according to an order and in a continuous fashion until the goal in it is reached, as it may be in weaving and the like. It may be possible for the consecutive actions of weaving that occur in an order and in a continuous fashion to be enumerated so that the woof becomes intertwined with the warp – likewise in carpentry regarding the door, and shoemaking regarding the shoe and tailoring regarding the shirt.

In this way, perfection in the art of dialectic, sophistry, rhetoric, and poetry must come about. As for the demonstrative sciences, it appears that their condition is like the condition in carpentry, writing, and the other arts that are self-sufficient in themselves.⁸

⁷ Cf. Alfarabi, *Kitāb al-Khaṭāba*, 57–59; and Aristotle, *Rhetoric*, 1355b12–15; cf. also Aristotle, *Physics*, 2.4–6; and Aristotle, *E.N.*, 3.3.

⁸ Cf. Aristotle, *E.N.*, 1112a18ff.

(76)
<4><Scientific, Dialectical, and Investigative
Interrogation>

[36] To interrogate involves that whose instruction is called for by it: this is scientific interrogation;¹ and that whose acceptance is called for by it and which may be used in dialectic and sophistry. These do not differ except in the different propositions sought by it. For, if what is sought is a dialectical proposition, then it is a dialectical interrogation, and if a sophistical [proposition], then it is a sophistical interrogation.²

[37] Dialectical interrogation is either an interrogation to make a choice or an interrogation to make an admission.³ Sophistry is similarly divided into these parts. The interrogation of choice-making is that by which the respondent is entrusted to accept whichever of two contradictories he wants. The matter makes him choose whichever of the two he desires, or which he opines is better for him; then he accepts it. The interrogation to make an admission is that with which the respondent seeks to accept one of two parts of the contrary, to the exclusion of its opposite. That is done in such a way that only (77) that part is what the respondent accepts. For both of these interrogations, it is up to the respondent to choose whichever of the two parts he desires. He then accepts it.⁴

[38] Scientific interrogations include those with which the comprehension of the meaning that is signified by the name is called for, and its formation [*taṣwīr*] in the soul, as well as the interrogation that calls for the knowledge of the existence of the thing. This interrogation has two types. One type calls for the knowledge of the existence of the thing as being another thing, such as when we say, “is man an animal?”, and this is to call for the knowledge of the existence of a thing in a thing, and it is an existence predicated in a subject. This is the composite problem.⁵ And [the other] type calls for the existence of the thing absolutely, such as when we say, “does the void exist or not?”; this is the simple problem.⁶ The composite problem includes [the following]: that in which what is sought is one existence predicated in one subject, such as when we say, “is the heaven spherical or not?”; one existence predicated in one of many opposing subjects, such as when we say, “the stone and man, which of the two is an animal?”; the existence of one of many predicates in one subject, such as when we say, “to which of the twelve signs of the Zodiac does the

¹ Cf. Aristotle, *Prior Analytics*, 1.12.

² Cf. Aristotle, *Topics*, 1.3–4; cf. also *ibid.*, 159a26–36.

³ Cf. Aristotle, *Sophistical Refutations*, 144a33–42. ⁴ Cf. *ibid.*, 174a30–174b7.

⁵ See 71, below. ⁶ Cf. Aristotle, *Posterior Analytics*, 2.1–2 and 93a16–27, 93b34–35.

sun belong?"; the interrogation that calls for the knowledge of (78) its substance (one that it shares with something else) calls for the knowledge of its genus; what calls for a knowledge of that by which its substance is distinguished from the other species related to it; what calls for the knowledge of its substance that is signified by its definition; the interrogation that calls for the knowledge of that which distinguishes the thing from something else regarding one of its accidents; what calls for the knowledge of its property, or of another accident, separated or not. All of these only exist at first in the simple problem after its existence is known, and secondly in the composite [problem].⁷

The interrogation that calls for the understanding of the existence of the thing is that with which one calls for its demonstration, because the knowledge of its existence is not attained except through the knowledge of its demonstration.⁸

[39] The way of the student is to bring together in his interrogation both parts of the opposition. He calls for the demonstration from the teacher of the part of the two that is true, such as when we say, "is every body divided indefinitely, or is no single body divided indefinitely?" The way of the dialectician is to bring together in his interrogation both parts of the contrary, and calls for from the respondent the acceptance of whichever of the two he desires. It may happen that for each one of both interrogations there is a word that signifies itself in respect to it and is not the word (79) that signifies the other, because the dialectician makes the respondent choose between the two parts of the contradiction [*al-tanāquḍ*] so that he will accept whichever of the two he desires. The student does not make the teacher choose between the two parts of the opposition [*al-taḍādd*] in order to teach him whichever of the two he desires, rather he only asks him to make known to him the demonstration of the true part of the two. What occurs is that the two questions share only the word – and this is the particle "whether/if" [*hal*] – and they are distinct concerning the issue called for by them, and concerning the two parts of the opposition [*al-taqābul*] used by the two. Both parts of the contradiction [*al-tanāquḍ*] are used in the dialectical interrogation, and the two parts of the opposition [*al-taḍādd*] are used in the scientific interrogation. And that which is called for by the dialectical interrogation is the acceptance of one of the two parts of the contradiction [*al-tanāquḍ*] (whichever of the two the respondent desires);⁹ and [that which is called for] by the scientific interrogation is certain knowledge of the true part of the two parts of the opposition [*al-taḍādd*].

⁷ See 102ff., below. ⁸ Cf. Aristotle, *Posterior Analytics*, 71b16. ⁹ See 135, below.

The science of existence may result [for the student] via two questions, one of which precedes the other: what is first of all called for by the first of the two is that the teacher inform by declaration – not by demonstration – about the true part of the two oppositions [*al-taḍādd*] about which demonstration concerns itself. The second calls for demonstration about that true part. If the teacher responds regarding the first question by informing about the true part from among the two parts of the opposition, and connects that to demonstration without the student in need of a second interrogation, he [sc. the student] follows the method of science that arises from the response.

(80) [40] It is always the case that investigation comes about only for problems whose syllogism is still not found, and it is imposed only to find its syllogism. That may occur between a man and himself in order to find his syllogism by himself, or that may occur between him and someone else in order to share in seeking the syllogism for the posed problem¹⁰ since finding the syllogism for the problem is easier if more than one seeks it. Regarding that which is sought by the two of them, it is not necessary that its condition according to the questioner be the same as the condition of the one who has the syllogism of that problem. For if, from the point of view [of the questioner], the condition [of the respondent] is thus, or if he who wishes to be questioned already knew his syllogism before being questioned, the questioner acts as a student, not an investigator.¹¹ The interrogation by means of investigation calls for the person questioned to search for the syllogism for a problem, when neither of the two has his syllogism. It is a thesis that is shared by both of them. When one of them finds the syllogism before the other, he informs the other, and it is up to the other to examine that syllogism, and that the one informing also return to it by means of investigation; and it is up to the one questioned to answer the questioner regarding that to which he [sc. the questioned] returned, until they both reach it according to the limit of their ability. This investigation is not like (81) the kinds of interrogations that preceded it, and it is necessary for it to have a name in accordance with its condition.

The same [is also true] if the questioner does not have a syllogism for his problem and asks another person, without knowing its condition in relation to the one questioned by him, whether he happened to know his syllogism before his interrogation of him or whether he happened not to know. This is also a kind of investigation, and is not one of these preceding interrogations.

¹⁰ Cf. Aristotle, *Sophistical Refutations*, 175a9–12.

¹¹ Cf. Alfarabi, *Kitāb al-Ḥurūf*, sec. 221.

The didactic interrogation calls for the one questioned, whom the questioner understands to know the demonstration of the problem that he calls for, to teach his demonstration. The dialectical interrogation calls for the one questioned to accept a proposition [*qadiyya*] that the questioner intends to refute or use in the refutation of another [proposition] that he accepted before. That is not possible except if the questioner had already known the syllogism by which he refutes the accepted thesis.

[41] These three interrogations are different. The dialectical [interrogation] is an interrogation regarding that which the questioner already knew (before his questioning) that he was in possession of the syllogism by which he refutes the sought-for thesis. The scientific [interrogation] is an interrogation regarding that which the questioner already knew (before his questioning) that the respondent is in possession of the syllogism that proves what is sought. The interrogation by means of investigation is an interrogation regarding that which the questioner knew that neither he nor the one questioned is in possession of the syllogism of the thing he seeks, or [it is] an interrogation that proceeds from the questioner not knowing whether the one asked does or does not know his syllogism.

The scientific one of these three calls for a syllogism from certain premises. The dialectical [one] with which the thesis is called for is the calling for what the questioner seeks to refute. And as for that which concerns a proposition that is used in refuting the thesis, it is the calling for a generally accepted proposition. As for the thesis, it may be generally accepted or may not be generally accepted.¹² We will clarify its condition later.¹³ Investigation is common to all of the arts; it demands a syllogism for a problem for whatever art there is. Sometimes it seeks a syllogism composed from certain premises, and sometimes it seeks a syllogism composed from generally accepted premises.

¹² See 99.1, below. ¹³ See 82ff., below.

(83)
<The Particles of Interrogation>

[42] As for the utterances that signify the types of interrogation, the particle “whether” [*hal*] is used in choice-making interrogations and in scientific interrogations where information [*al-ikhbār*] about the true [demonstrative] part of the two parts of the opposition is sought, and in scientific interrogations about the problem whose syllogism is investigated. It may have to be that, for each one of these [types of interrogation], there is a special utterance that signifies it.

The particle “is it not” [*alaysa*] signifies the confessional [*taqrīr*] interrogation.

The particle “what is” [*mā*] is used in scientific interrogations that call for an understanding of what is signified by the name and in interrogations that call for the knowledge of the substance of the thing. It may have to be that, for each one of these two, there is a special name for it.

The particle “which” [*ayy*] is used in interrogations by which the thing is distinguished from another that shares with it a certain thing, whether that shared thing is a genus or a kind or an accident of that thing, or whether that by which it is distinguished from the other is an essential difference or an accidental difference.

(84) The particle “for what reason” [*li-ma*] is used in scientific interrogations that call for the teaching of the cause of the thing’s existence.

The particle “how” [*kayfa*] is used in interrogations about the conformation [*hay’a*] of the thing and its disposition [*sīgha*]. Such as when we say, “how is Zayd in his body?” or, “how is he in his moral character?” The conformation of the thing is sometimes its substance and a conformation in which its subsistence [*qiwām*] consists, such as when we say, “how was this work done?” or, “how was this garment weaved?” This interrogation calls for the knowledge of the conformation by which the subsistence of the work [comes about], and the [knowledge of] the things by which it exists. When it occurs that this conformation is a conformation with which a certain body subsists, the interrogation [of its subject] is permitted by means of the particle “how.” Therefore, since the essential difference is to have made similar the conformation and disposition by which the thing subsists, one is permitted to interrogate by means of the particle “how.” Therefore, sometimes the essential differences are called “qualities” [*kayfiyyāt*], and sometimes the conformation asked about them by means of the particle “how” is an accident, such as when we say, “how is so-and-so created?”, and it is said, “well” or “wicked”; or, “how is his body?”, and it is said, “weak” or “powerful.”

The essential conformation and essential difference might both be taken to the extent that both are subsistence of the essence of the thing, without taking [into account] the distinction between that (85) thing and between another that shares a certain thing with it. If both are taken as subsistence only, without being taken as that which distinguishes, the interrogation about them occurs by means of the particle “how” [*kayfa*]. If they are taken as distinguishing, the interrogation about them occurs by means of the particle “which” [*ayy*]. Therefore, in calling for the distinction, the particle “which” is connected to the genus of that which is asked about it, or to something else from among the things common to it and to the thing whose distinction from it is called for. It is not necessary that the interrogation about it [proceed] by means of the particle “how,” rather the particle “how” is only connected to that which is asked about, not to its genus.

[43] These are primarily signifiers [*dalālāt*] of these particles. They are “whether” [*hal*], “is it not” [*alaysa*], the particle “what is” [*mā*], the particle “which” [*ayy*], the particle “for what reason” [*li-ma*], and the particle “how” [*kayfa*]. These particles may be used in a broad fashion, metaphorically, figuratively, and in the expression without care, one after the other, and the power of one after the power of the other. That is because the particle “what is” [*mā*] may be used such as when we say, “what is your speech?” or, “what do you say about such a thing?” Both questions are that by which the teaching of the thing is called for, or the absolute information about it [that is, without demanding its demonstration], whether according to the method for acceptance or the method for teaching. Such as when we say, “what is the demonstration for such a thing?” [the particle] becomes the calling for the demonstration and proof [*hujja*].

(86) The particle “which” may be used such as when we say, “which thing are you talking about?” or, “which thing are you saying about such a thing?” That is the calling for the acceptance and teaching, and likewise our saying, “which thing is the body – is it self-moving?”, and likewise our saying, “which of the two things is found in this body: is it an animal or not an animal?” This becomes a choice-making [*takhyīr*] interrogation. Likewise it is used in the problems that are comparative, such as when we say, “which is larger, this one or that?”, and likewise in such as when we say, “the sun, in which Zodiacal sign is it?”

The particle “how” may be used such as when we say, “how do you speak about this?” It is an interrogation of acceptance or training. Likewise, it may be used such as when we say, “how did the heavens become spherical?” That calls for the demonstration.

Likewise our saying “for what reason” is used such as our saying, “for what reason did you say that?” and, “for what reason did the heavens become spherical?” This is an interrogation with which the demonstration of the thing is called for. That is, because every syllogism is a cause for the consequence of the conclusion, it is not impossible that by means of it – that is, the particle “for what reason” [*li-ma*] – what is called for is the cause of the consequence of the thing that is posed as a conclusion.

[44] (87) From among the kinds of scientific interrogation, [the kind] that calls for what makes known the meaning of the utterance may sometimes be used in dialectic. If one of the two who discourses does not understand what the other says, it is up to him to call for the clarification, explanation, and making known, whether he is a questioner or respondent.

(88)

<Teaching and Education>

[45] Whoever teaches an art that is certain¹ must satisfy three conditions. One of them is to have already comprehended a science by the rules that are the roots of his art, those of them he is to know by a primary science and those he is to know by a demonstration, and be capable of bringing forth a demonstration of all that are demonstrable at whatever time he wishes, and at whatever time it is requested of him; and that his capacity be one by which he is able to make someone else understand. And second, [he must be] capable of discovering what is not to be written down in a book, and what is not to be placed among the roots of his art. And third, [he must] have a capacity to oppose paralogisms² he finds in his art with what stops them.

Those he discourses with (or who discourse with him) are one of three [types]: either [1] a student; or [2] a deceiver or someone deceived by the people of his art in one of the things [of the art] because of an error that is specific to the art; or [3] a deceiver or someone deceived not by the people of his art in one of the things [of the art].

(89) [46] He discourses with the student [in one of the following ways]: either with an introductory speech in order to teach the thing (and this is by means of an interrogation with one of the scientific questions that have been mentioned); or with an examining or petitioning discourse regarding what he has already been taught, which increases the clarification of something that is difficult for him with an utterance whose meaning he does not know; or a proposition (concerning a conclusion or premise in a syllogism) whose truth is not clear to him, without opposing it in anything; or [he] discourses as one who brings forth doubt upon him, opposing the conclusion or demonstration or both together. It is up to the teacher to listen to him regarding each one of these [objections], and teach him so that he understands the meaning of the thing, and then offer him the demonstration of the thing the knowledge of whose existence was sought. It is up to the student after that to consider anything the teacher offered him and critically examine anything that is difficult for him. It is up to the teacher to make known to him the meaning of an utterance if it is difficult for him, and make evident to him the truth of propositions whose truth is not evident to him in order to remove the place of objection in everything to which the student has an objection. The discourse of the student to the teacher and the teacher to the student in some of these

¹ Cf. Alfarabi, *Kitāb al-Ḥurūf*, Book 3; Alfarabi, *Philosophy of Plato*, sec. 27.

² Cf. Aristotle, *Topics*, 101a7; Aristotle, *Sophistical Refutations*, 164a21–166b20.

things is by means of interrogation and in others by means of the method of declaration. The discourse between the two of them (whether by the method of interrogation or the method of declaration) involves neither dialectic nor investigation, but rather, either the teacher instructing or the student learning.³

(90) [47] As for the one among the people of his art who is deceived, the rank, in the art, of the thing about which he is deceived is known by both of them together, and the propositions that precede are agreed to and certain according to both of them. Whoever wants to remove from the deceived his error and deception uses these things that are prior to the place in which deception exists in the art in making evident where the deception in the deceived is. He needs two kinds of speeches. One kind with which he opposes all conclusions and syllogisms about which he is deceived, and [another] kind with which he demonstrates the true one among two opposing things. If he desires, he places each of these [kinds of speeches] according to the method of interrogation, and if he desires, according to the method of declaration. Sometimes the interrogation is more useful, and sometimes the discourse according to the method of declaration is more useful. If he chooses to discourse with the deceived according to the method of interrogation, and [if] the error is in the conclusion and in the syllogism together, at the beginning he inquires first of all about the conclusion and about the demonstration and presents the opposition to the conclusion. Then he moves to the opposition of the demonstration: that is either to oppose its form, or to oppose its two premises, or one of the two, or to oppose all of these. If he desires, he inquires about the condition of the conclusion and opposes it; then [he inquires] about its demonstration and opposes it. It is necessary for him to oppose both if he [sc. the listener] has been deceived about both of them; and if he has been deceived **(91)** about the demonstration, he opposes the demonstration. It is for the listener, if he perceives a place of defectiveness or difficulty in what the first says, to critically examine it either from the standpoint of desiring an increase in clarification, or from the standpoint of opposition – if he desires it from the standpoint of the method of interrogation or if he wants it from the method of declaration. Neither of them in his discourse is a dialectician or an investigator, but rather a teacher or student.

[48] The one who deceives others from the people of his art only discourses with misleading premises particular to this art, and which he obtains from the other through the interrogation. This discourse is called

³ Alfarabi, *Kitāb al-Ḥurūf*, Part 3, sec. 221.

“the test,” and the syllogism used in this discourse is called “the probative syllogism.” It is the syllogism that is composed from premises whose parts are things particular to this art, which are false and are falsified by things that obscure its falsehood up to the point that it is possible that each one of the people of this art does not notice it. This is also called the falsity peculiar to the art. It may only be composed against someone who is ignorant of the places of errors in the premises. Therefore, the way of [the one who deceives] is to make these [premises] become accepted through interrogation in order to test the respondent, and examine whether he accepts them or not. If he accepts them, his deficiency in the art is made evident by that. He also places here the interrogation [in the form of] a choice-making interrogation in order to test by means of it whether the respondent (92) notices the place of the error or not. The perfect one in the art notices the places of falsification and obfuscation. He does not accept them and uncovers the falsification that is there. This discourse is similar to dialectic. The testing questioner seeks to have the respondent accept the conclusion that is an opinion of the people of this art by means of the confessional interrogation. If a subject is attained, after that he makes the respondent accept the falsified premises by means of the choice-making interrogation. However, it is for him [to conceal the contrary of the conclusion]. If the respondent accepts it, the questioner combines them, and then produces from them the opposite of what he had first of all supplied. This is the method of testing.⁴

[49] As for the one who is deceived or who deceives and who is not among the people of his art, it is not possible [for the one who teaches] to discourse, by means of his art, with one or the other. He may not oppose this one, nor contradict the other, were it not for his having along with his skill in his art a faculty for dialectic. He discourses with each one of the two by generally accepted [premises] that are opinions shared by the many. If he does not practice dialectic, he will not be able to discourse with either of them.

(93) [50.1] And here there are also syllogisms outside of these that we have mentioned, and that the partisans of the certain arts use to make [the proofs] more apparent, to increase them, or because they wish to make them easier for the listener. Among them are syllogisms composed from generally accepted premises used for teaching or to oppose the objections of the one deceived.

⁴ Cf. Alfarabi, *Kitāb al-Ḥurūf*, Part 3, sec. 222.

[50.2] Among them are syllogisms employed to make evident something in a particular art from premises that must be from another art – like making evident in natural science that the earth is spherical, or that it is in the center [of the universe], from premises taken from the science of astronomy.

[50.3] Among them are syllogisms employed against one who is deceived in an art, who is deceived by them [to regard] the true and correct as false propositions, except that they are the opinions of the one deceived and whom the one speaking seeks to remove from his error. For from the false premises it may be possible to produce true conclusions.⁵

[50.4] Among them is the syllogism that [the one speaking] forms in his art to refute the opinion of the person: one of his two premises is that opinion; the other is a truth that is evident, from which an opinion that is impossible (94) according to that individual follows, without it being impossible according to someone else but rather is an opinion of another person.

[50.5] Among them are absurd syllogisms⁶ used to refute the opinion of a person in a particular art: one of his two premises is that very opinion, and the other is evidently true, from which the contrary of the opinion of that person follows regarding another thing in this art. This syllogism is only formed against a person whose opinions are known to contradict [*yunāqid*] one another.

[50.6] Among them are syllogisms formed for something in an art from received premises either for teaching or for refuting the error of the one deceived, or for discoursing with whomever is not among the people of this art. [This is] like what Aristotle mentioned in some of his books: that perfection and completeness are sought for by the number three; and he set down as the proof of that the places where the triad is used among the revealed laws [*al-sharāʿi*]. Also, when he wanted to clarify that the god is in the heavens, he set down one [proof] by which that was made evident: that all of the revealed laws require that the hands, eyes, and faces be raised towards heaven for prayers and invocations.⁷

(95) [51] All of these [syllogisms] must only be used in the art after the use of demonstrations and the certain premises. For these are genera of the discourses that exist in the scientific arts. For those of these that are scientific one should use certain premises in them and generally accepted [premises] are not to be used in them, except in multiplying the proofs

⁵ Cf. Aristotle, *Topics*, 162a8–11. ⁶ See 129, below.

⁷ Cf. Aristotle, *On the Heavens*, 268a7–15.

and after having the conclusions already established by certain premises. If generally accepted or persuasive [premises] are used by those who examine the science in them [sc. in scientific discourses] in place of certain [premises] out of ignorance of the difference between them [sc. these premises], those who examine fall into contrary beliefs and divergent opinions. Every time they scrutinize the art, the divergence in their opinions increases. They continue like that without their opinions culminating at a thing about which they agree except by examination. But neither of the two comes to certainty about his opinion. Having done that, they head for their goal, which is the knowledge of certainty, by means of the methods that lead them to its contrary, using for the thing that which is not its instrument. This is the reason for the difference of the opinions of the Ancients in the past before these methods were distinguished from one another, when the art of logic was perfected, the scientific art was firmly established, and the differences regarding them disappeared.

(96) [52] The interrogation with which the demonstration is called for is necessary in the sciences. The interrogation about the scientific problem combines the calling for two things: the declaration about the true part from the two parts of the problem together with its demonstration. For [when] we say, “are the angles of every triangle equal to two right angles?”, the declaration about the true part is not sought by him but rather to silence the respondent after that so that another interrogation about the demonstration may be put to him. What is only sought by the interrogation of it [sc. of the truth regarding the angles of all triangles] is the knowledge [of the respondent], and the knowledge is not attained except by demonstration. An answer to this is for him to mention the true part [of the opposition] that is tied to its demonstration. However, it is not clear that, by limiting the respondent to mentioning the part of them that is true, it is true. Therefore, if the respondent is silenced after his declaration about the true part, it is necessary for the questioner to request from him the demonstration; if not, his first interrogation is in vain.⁸

[The same is true for] the scientific interrogation that intends the opposition of the thing. If it is first of all inquired about that whose refutation is intended – for example, “does the void exist?” – it is necessary that the respondent connect his speech, “the void exists,” with the thing that proves the existence of the void. If he does not do so, it is necessary that the questioner ask him about its proof, and if he provides it, he opposes (97) the conclusion and premises together.

⁸ See 39, above.

[53] In dialectic, the meaning of the interrogation with which the acceptance of the thesis is obtained (whichever of the two parts of the opposition the respondent chooses) is to defend it. There is nothing there that requires him to attach his declaration about the thesis to the proof that establishes that thesis. For he does not interrogate him [sc. the respondent] about that by which the thesis is established, since it is not his intention to teach that to the respondent; it is only his intention to refute the thesis. It is also not necessary for us after that to ask him about the proof that establishes the thesis. Along with that, the refutation of the thesis by the questioner is possible without the refutation of the proof that, according to the respondent, establishes the thesis. The student knowing the thesis that is inquired about is not possible without demonstration.⁹ And the preservation of the thesis by the respondent is possible even if he does not mention his syllogism. That is because there is a difference between the preservation of the thesis and his victory, for his victory is not possible except by a syllogism, and its preservation is only the rejection of the syllogism that he refutes. He prevents the questioner from concluding the contrary [of the thesis], and the respondent's protecting [himself] from accepting that with which the questioner is able to refute the [very] thesis itself, since it is possible that the proof is not true but the conclusion is true.¹⁰

(98) [54] As for the one who teaches the deceived one in the art, he must, first of all, begin by refuting what is true according to the deceived one, and make its falsehood evident. For if the conclusion has been shown to be false, it necessarily follows that there is falsehood in the demonstration. If he begins by refuting the demonstration, he does not make evident in its falsity that the conclusion is false. Therefore, it is necessary that the opponent of the deceived one make evident first of all the falsehood of the conclusion, then make evident that which is false from among the premises of the demonstration, or declare that the form of the speech that is believed to be a syllogism is false.

⁹ See 38, above. ¹⁰ See 50.3, above.

(99)

<The Emergence of the Composite Arts>

[55] A group of those who preceded [that is, the Ancients] opined that it belongs to the one who interrogates according to the dialectical methods, after he achieves the acceptance of the thesis, to request from the respondent the proof that establishes the thesis. If he achieves its acceptance, the questioner moves away from the thesis and turns towards the proof and occupies himself with its refutation. That is because there is no difference according to them between rhetorical methods and dialectical methods, and they used many rhetorical [methods] as if they were dialectical.¹ That is because one is persuaded that the proof of the thesis, if refuted, is the refutation of the thesis because of the fact that the truth of the thesis comes about by means of the truth of the proof.² Also, they used to employ this method due to the shortage of arguments that refuted the thesis, and [because] it was difficult [to evoke] them during the discourse, and [because of] the inferiority of their intellects about the syllogism, and [because of] their lacking the proofs with which they refuted the thesis, and [because of] their difficulty in finding them. From the respondent, they called for the proof that establishes the thesis, so as to be moved to the syllogism and to bring him, and him entirely, to the location of the thesis. So the concern widens around them, and they find proofs in abundance,³ and many methods come to them, and the desire for them becomes easier than the desire for the thesis. This is because (100) the thesis is refuted in one way only, and is defended also from only this way, while the syllogism is refuted in three ways: from the direction of its major premise, from the direction of its minor premise, and from the direction of its form, and whatever is refuted is the refutation of the syllogism. Therefore, it is to be defended by all three ways. That which is to be defended by means of its verification from three ways, and refuted by means of its falsity by whatever may happen to exist, is such that it is more difficult to defend and easier to refute. Sometimes it is also as difficult for them to refute the syllogism for which they do not have a conclusion. They call for that by which the premises of the syllogism are established so that they may be brought to more things, because the primary syllogism is from two premises, and that by which the two premises are established are two syllogisms each of which is [derived] from two premises. Four premises and two associations [of ideas] come about. The examined things to which one passes are many. Whatever is refuted, one believes that the

¹ Cf. Aristotle, *Topics*, 111b32–112a23; cf. also Aristotle, *Sophistical Refutations*, 183b8–184b8. See also Alfarabi, *Kitāb al-Ḥurūf*, Part Two.

² See Aristotle, *Rhetoric*, 1355a15–21. ³ See Aristotle, *Prior Analytics*, 47a15–20.

primary thesis has been refuted. They always move to more things. They wait until it happens that they discover things with which it is easy for them to refute the thesis, as well as refute another thing that has been [defectively adopted] by the respondent, and they strive to cut off the respondent by doing so. It is clear that this method is the sophistical method⁴ which is used in rhetoric and is quite distinct from the method of dialectic.

(101) [56] Also, as for the one who seeks the proof that it establishes after having achieved the acceptance of the thesis, if he knows at the time he asks about the thesis that it is false and erroneous, then he already knows that the erroneousness of the syllogism was made evident to him by the thesis. And [he also knows] that that syllogism produces the opposite of the thesis, and that with that syllogism he must discourse with the respondent and refute the thesis. Consequently, what need does he have to question him about the proof that establishes the thesis? What does he intend by requesting, from the respondent, the proof that establishes the thesis?

If he knows that the thesis is true, the questioner already knows the syllogism with which its truth is made evident. He only intends by his request to obtain from the respondent his admission for what verifies the thesis and to get his attention. He is therefore a teacher and not a dialectician or opponent.

If he does not know whether the thesis is false or not, if he believes along with that that the respondent preceded him in the discovery of that which verifies the thesis, his intention is therefore to learn that thing from the respondent. If he believes that the respondent is his equal regarding this matter, and that he also does not know just as the questioner does not know, the questioner therefore **(102)** examines and seeks by his interrogation to associate the respondent with him in the examination so that they both become investigators and cooperate in the discovery of his syllogism, since the discovery of what is sought by a large group is easier than the discovery of what is sought by one person.

If his intention by his interrogation is the removal of error from the one deceived with regard to something, it is necessary that he already know before that the syllogism by which the thesis is refuted and the syllogism that misleads the respondent until he believes that the thesis is true. It is for him, therefore, to begin by refuting the thesis and then return to the syllogism that the respondent believes verifies the thesis; he then refutes it. Along with this, as we said, it is permissible for the questioner to request

⁴ Aristotle, *Topics*, 111b32.

from the respondent the proof that according to him establishes the thesis; however, he is, by this action of his, a teacher and not a dialectician.

If he does not know that by which the thesis is refuted, from where does he know that the thesis is false so as to oppose the respondent with it?

[57] Along with that, if the proof is refuted, it does not necessarily follow that the thesis is refuted. It is according to unexamined opinion that one is persuaded of this; however, if examined, it is shown to be false. That is because the truth of the proof verifies the thesis, and the thesis exists by means of the existence [of the proof] but [it does not follow that] if something exists (103) by means of the existence of another thing, it will disappear along with the disappearance of that other [thing]. This is clear from what preceded before many times. Therefore, it may be that the proofs are false whereas the thing in it is true; or it is an undecided problem and [the question arises] whether in the falsity of this proof anything remains in that thing other than the proof. So he returns to what it had been prior to discovering its syllogism. At that time, the investigation of the issue may be undecided and frustrated, not knowing whether it is true or false. When what is investigated is knowledge of what is evident in its condition, it is absolutely not false because the falsity [*al-bāṭil*] is that whose falsehood [*kidhb*] is known. If only the proof is called for: in order always to move, by means of the method of conversion, to the proof and to the proof of the proof, perhaps he discovers in his method something with which the respondent is refuted; or to make someone imagine through the increase of passages [from proof to proof] and the prolixity [of discourse] that he is speaking (regarding the thesis) of that which refutes it; or he procrastinates in order to pass the time, and the assembly disperses – then he deceives others or ridicules them.

[58] In order for their argument to be enriched in the discourse, and after the thesis is accepted by the respondent, they generate kinds of interrogations with which they call for – after the thesis is accepted by the respondent – the proofs by which the thesis is established, and then they move him towards them, provoking him towards them in such a way that it is hidden, (104) thereby making him imagine that they discourse with him with what refutes the thesis.

[59.1] [According to these methods,] if the respondent accepts the thesis, they place its opposite in front of the thesis, and ask him what the difference is between it and the thesis. For example, [this is like] when they place in front of the respondent, if he affirms that all pleasure is good, that not a single pleasure is good, and they ask him what the difference is between their thesis and his. They make him believe by that that his

condition in relation to his thesis is analogous to the thesis that he refused and did not affirm; and that his relation to [the thesis] that he posed (that is, knowing that there is no proof in its favor and that it concerns that which was not decisive) resembles his relation to the thesis that he refused and did not affirm. They intend the opposite of the thesis without the contrary [*al-naqīḍ*], and make him believe that it is not impossible that his thesis is false like the falsehood [*kidhb*] of what they affirmed, since the two opposites [*al-mutaḍāddān*] may both be false, and, if he does not arrive at its proof, then his thesis and their thesis are similarly false, since it is not impossible that only he knows the falseness of his thesis. Because of these things, it does not appear that their interrogation is one with which the proof is called for, since that does not occur by means of an utterance that signifies that it is an interrogation by which something is called for, but rather by means of an utterance with which a questioner finds the place of the refutation of the thesis. If the respondent refrains from offering a proof that establishes the thesis, they make him believe that the refutation of his thesis has been completed. If he offers the proof that establishes the thesis, it is for them to ask him for a second proof that refutes their thesis, (105) because they do not ask him for what establishes his thesis without [asking also] for what refutes its opposite. With that they find themselves in a vast domain in which they are taken to an abundance of proofs.

[59.2] [According to these methods,] if the respondent offers the proof that establishes the thesis, they affirm its opposite [by offering] opposing premises to the premises of the proof that the respondent offers. From it they conclude the opposite of the thesis and ask the respondent for the difference between the two of them. This action of theirs regarding the proof of the thesis is similar to their action there regarding the thesis itself.

[59.3] Sometimes they affirm, in the face of the proof, whatever arguments happen to occur that do not have any relation at all to the thesis.⁵ Sometimes they make them true and other times false; then they make them follow the opposite of the thesis, and ask the respondent for the difference between them and the proof that was offered in establishing the thesis.

[59.4] Sometimes they set forth the proof that the respondent offered in order to establish the thesis as a proof that they make follow the opposite of the thesis, and then they inquire about the difference.

⁵ *Ibid.*, 112a7–9.

(106) [60] Sometimes they continue like this with the respondent, and that means that they use this method with the respondent every time he answers regarding something, or in accordance with his faculty, and that at all times. Sometimes they use this [method] as introductions or as a development of the argument, or an increase or as a transfer to [other] things in which the questioner might happen to come across a location or proof that he may use in refuting the thesis or in refuting something else about which the respondent speaks during the course of his discourse – whether it is joined to the thesis or not joined to it. If he does not happen to come across things he hoped for, he is saved from being thought of as someone who was cut off [from the discussion] (for not having found that by which the respondent is refuted) because of the possibility of [indefinitely] elaborating in this category, since these kinds of contradictions continue without end.

[61] The persuasion regarding these kinds of objections [concerns:] two arguments or concerns that are similar to each other if their relation to the conclusion or the demonstration is the same; those which as such resemble each other. If the opposition of the thesis is an opposition by resemblance, and if the predicate of the thesis is, for its resemblance to its subject, the opposite of what **(107)** it is in the thesis, [then one is persuaded that] this is an argument that may refute the thesis. Likewise, if there is in the proof of the thesis an opposition that resembles this proof, or an opposition that resembles some of its premises, it may be used to refute this proof. Likewise, if the opposition resembles the formation of the proof, and if the opposite is concluded from what is concluded by the proof that establishes the thesis, it is possible to place a refutation for the form of the argument for which the respondent offered a proof.⁶

[62] All of these oppositions are rhetorical, not dialectical. It is permissible for the questioner in all of them to request the difference. And, if there is absolutely no similarity between the thesis of the respondent and its opposite that the questioner posits, nor a connection that follows an opposition of what the respondent posits, then it is not for him to request the difference. That is because it is only necessary that the judgment of two things be judged as one when it happens that both cooperate in one way – either in truth or apparently. Only he who had offered a connection that necessitates the partnership in the judgment seeks a difference that necessitates the opposition in the judgment. As for when the questioner does not make evident a partnership that necessitates one judgment, it is possible that the difference by which they are two necessitates the

⁶ See 134, below.

opposition in the judgment, and in that difference between them there is a sufficiency for **(108)** the respondent to set the two of them down as two opposites of the judgment. It is not for him to request the difference between two things whose difference is evident. These oppositions and interrogations are rhetorical and sophistical, and are erroneously used in dialectic.

(109) [63] Likewise, many people may be deceived, and use scientific interrogations in dialectical discourse and not notice it; and that occurs either erroneously, or exists in a composite syllogistic art. That is because the simple syllogistic arts where simple syllogistic discourses are used are these five that we mentioned many times. Syllogistic arts may be found composed of things some of which are scientific and some of which are dialectical and some of which are rhetorical and some of which are among the other simple syllogistic arts, and those whose discourses are composite.

[64] These composite things can arise in the following ways. Among them, he who investigates [*nāẓir*] the scientific things – like the natural sciences or the divine sciences and others from among the scientific arts – does not know the differences between these five syllogistic [arts] and the kinds of syllogisms. And, when he wishes to deduce something, he wants to deduce it by whatever thing happens to occur in his natural disposition from among the arguments. Sometimes arguments happen to occur to him that are rhetorical, and sometimes dialectical, and sometimes arguments happen to occur to him that approach demonstrations, and sometimes sophistries. Whatever method happens to occur in his soul during his investigation and (110) his teaching, he uses it. The method with which he examines the philosophic[al] matters becomes a method composed of methods from a number of arts, like what occurred to the Stoics and many of the ancient natural scientists.

[65] Among them is that custom may reveal to man the most beautiful things and actions and hide the most useful or pleasant. The most beautiful of the syllogistic discourses are teaching and learning and the searching for the use of truth and reporting the truth; and the most useful or pleasant is to be regarded as being skilled in science and in the syllogistic discourses, having the capacity and faculty for it, and to be regarded as the most virtuous in wisdom and in knowledge of the truth, either by analogy to some or by analogy to all. Truly the virtue of the faculty of the person in that is only revealed by a victory over someone else with whom he discourses – whether a questioner or respondent. If the person wishes to show, in his discourse, that he understands something that another knows of the truth, to teach someone else what he himself knows of the truth, to conceal in his heart the victory over the one with whom he discourses, and to reveal the virtue of his capacity, then his discourse must be composed from things some of which are scientific, others dialectical or (111) rhetorical, and others sophistical. The art that achieves this goal must necessarily be composite.¹

¹ See Aristotle, *Sophistical Refutations*, 171b25–34.

[66] Among them is that many of the things which, in the certain sciences, are to be known with certainty only after the understanding of many things in a proper order and over a long time may be evident in dialectic and in rhetoric by means of a few things and in a short time – except that they do not offer certainty. Many of the false things may be verified by dialectical, rhetorical, and hidden sophistical things. And so they become convincing, and in form are true. If some person is a philosopher capable of teaching through all kinds of arguments, and intends teaching to the many demonstrative, certain, and true opinions whose demonstrations are strange to them, and so seeks to teach them these opinions by means of rhetorical and dialectical methods, and he promulgates among them, according to the method of political governance, opinions necessarily of use to them in their actions, and he persuades them [of their truth] through rhetorical and dialectical methods, and establishes all of that in their souls (like what Protagoras² did according [to what] Plato reports in many of his books), then these opinions can be established in the souls of the listeners, and their minds are led (112) by them and they trust them and believe that they are true. Then some from among the many, or someone whose rank is not the rank of that person who promulgates these opinions to them, seek to clarify these opinions or verify them to someone else through syllogistic arguments that are few in number, easily attainable and in a short amount of time. These intentions of theirs and many of these matters necessitate that their arguments be rhetorical and dialectical.

[67] When the people of investigation and examination oppose [these arguments against] one another, and contend over them in order to verify them for each one [of the people], and want to verify them also over their adversaries over whom they need to be victorious, then they are obligated to support these rhetorical and dialectical arguments, and to approximate them to the methods that are most trustworthy, as well as the scientific [methods] that provide certainty. They strive to strengthen those that are rhetorical and those that are dialectical and to make them more trustworthy, and to support them in that which makes them more convincing. They desire, by means of them, to verify the truth and certainty. They desire the truth without the things that provide them with certainty, yet they do not notice it. They desire to teach those who guide them to their opinions, and they oppose their adversaries as though they deceive them away from the truth by means of arguments mixed with rhetorical [arguments] formulated to approximate them (113) to dialectical [arguments],

² The Arabic here is *fūthāghūrūsh*.

and dialectical [arguments] formulated to approximate them to scientific [arguments] and they desire to help them by that which makes them firm, and simple scientific [things] appear to them as a shiny object appears from afar. Their goals are the very goals of the philosopher, but their methods towards these goals are not demonstrative methods.

[68] They attain from that a syllogistic art composed of things some of which are dialectical, others rhetorical, others sophistical, and others scientific, as happened to occur to the Pythagoreans³ of old. Because they needed (in verifying many of them [sc. their arguments]) premises that many of those with whom they discourse do not accept, they are obliged to verify these other premises. Sometimes these others also are not evident and are not accepted, and they need to verify those as well; therefore, they are obligated to verify these as well until they end up at the generally accepted and sensible [premises].

From the generally accepted and sensible [premises], to what they find that helps them verify their opinions that are their ultimate problems, to what they opine verifies the premises that verify their problems, their intention is to reject what (114) does not help them. And they reject those of them that affirm the opposite of their opinion, or refute many of the premises that help them verify their opinions, and declare them to be false, and oppose them until many of them possibly reject the sensible whenever it opposed his opinions that he took from his first leaders [*a'immat al-awwalīn*], and attributed the error in it to the senses.

[69] Among these opinions are the opinions of the Pythagoreans⁴ that Aristotle mentioned in his book *On the Heavens and the World*⁵ and in *Meteorology* [*al-āthār al-'ukwiyya*]. He mentions that they placed more trust in those opinions they took from their ancestors than what they perceived [with their senses], and they even made them a standard for sense, and they strove to verify them by every trick they came upon. Because the logical methods that they used in their methods, their investigations, their teaching, and the rest of their discourses are universals that may be used in other things (distinct from the matters in which they customarily used them), they believed themselves to be capable of investigating, verifying, and refuting everything. Since most of the methods that they used were dialectical and rhetorical by which one may verify and refute these very things, (115) their art resembled the art of dialectic and the art of rhetoric. Therefore, they imagined that their methods were appropriate for training.

³ The Arabic here is *al-fūthāghūrush*. ⁴ The Arabic here is *al-fūthāghūrush*.

⁵ See Aristotle, *On the Heavens*, 293a17–293b15.

Because they intend by means of them the truth, and teaching and learning, and they do not notice methods other than these, and because they believe that there is no method for truth or teaching or learning other than these methods, then they find that, by means of them, the things that were established may be refuted, and they find that they are not more adequate to verify their opinions than to verify the opinions of their contradictors as well, and so many of them doubt their methods. For if they do not notice other [methods] than those which, according to them, are the sole methods to the truth, and if they find that they sometimes lead them to error, then it happens that many of them become perplexed and it occurs to many of them to follow the opinion of Protagoras.⁶ Whenever one of them – whose natural disposition is most excellent, who is most clever by nature, and in whose soul these methods are firmly established through the habitual practice of them while not noticing other [methods] – devotes himself to examination and study by using these methods, then his perplexity increases, as does his proximity to the opinion of Protagoras.

(116) [70] These are the causes of the emergence of the composite arts. Therefore, it is believed that such arts are dialectical and scientific, since they are composite, and because their goal is the goal of the scientific arts, and some of their methods are rhetorical and some dialectical. Those who devote themselves to them combine all the dialectical and rhetorical methods, and call all of them “dialectical methods.” Because the goal [of these arts] is knowledge of the truth, and, according to them, their methods are dialectical, they opine that dialectical methods are the methods to the truth. Therefore, the Stoics opine that dialectic is philosophy, and that there is no difference between the art of dialectic and the art of philosophy, since the philosophy of the Stoics is composite, as we summarized above.

⁶ See Alfarabi, *The Philosophy of Plato*, par. 5.

(117)

<5><Premises and Problems>

[71] Generally, “premise” is spoken of for every proposition and, in general, for every apophantic assertion¹ that is a part of a syllogism (or ready to be taken as a part of a syllogism), a conclusion, or a problem, which the person uses between him and himself or uses in a discourse with another. Aristotle uses this meaning of the word “premise” in most of the book *Peri Hermeneias*.² “Premise” may also be spoken of for the proposition that one seeks to adopt by means of the admission-making interrogation – it is that which is inquired about by the admission-making particle – whatever it is, whether a part of a syllogism (or ready to become one), a conclusion, or a problem. “Problem” [*al-mas’ala*] is spoken of for every proposition asked about by the choice-making particle – which is connected to the choice-making particle – whether it is the proposition, or a part of a syllogism (or ready to become one), a conclusion, or a problem.

[72] That which is asked about by means of these two interrogations are the very same propositions, but they differ with regard to the interrogation only. For they are called “premises” and “problems” (118) for no other reason than that the utterance “premises” signifies those from among them [sc. propositions] about which one asks from a certain standpoint, and the utterance “problems” signifies the very same [propositions] about which one asks from another standpoint. In this way, the “premise” is the proposition where the form of the utterance of the interrogation about it is the form of what is well established by it (whether itself or not), what is evident, or what is acknowledged by the questioned. In this way, the “problem” is the proposition where the form of the same interrogation about it is the form of what is sought and that which is not evident (or that which is doubted) – whether it is such in itself or not. According to this meaning, Aristotle said at the beginning of the first chapter of the *Book of Dialectic*: “The ‘problem’ is only opposed to the ‘premise’ in one respect,³ namely, this argument if spoken of in this way: do we not say: “‘living walking biped’ is a definition of man”? It is a ‘premise.’ Likewise, if it is said, ‘is not “the living” a genus of man?’ This is a ‘premise.’ If it is said, ‘do we not say “living walking biped”’: is it a definition of man or not?’ This is a ‘problem.’ In this way proceeds the matter in all the other things. ‘Problems’ and ‘premises’ necessarily become equal in number and identical. That is because you may make a ‘problem’ from each ‘premise’ if you move it from its way.”⁴

¹ See Aristotle, *De Interpretatione*, 17a2–3. ² See *ibid.*, 17a7ff.

³ See Aristotle, *Topics*, 101b29–36. ⁴ *Ibid.*

(119) [73] “Premise” may be spoken of in a way that is more specific than the first⁵ for each proposition that is made a part of a syllogism, or ready to be made a part of a syllogism in whatever art. “Problem” is also spoken of in a way that is more specific for each problem posed in order that its syllogism be sought in whatever art – whether that problem is dialectical or scientific, or whether between a man and himself, or between him and another. “Problem” may be spoken of for every proposition whose existence is known and posed in order that the cause of its existence may be sought. “Problem” may be spoken of for the interrogation and the search itself – whatever kind of interrogation or search it is, or in whatever art. This utterance, that is to say, the utterance “problem,” may be spoken of for the interrogation itself, and for the thing asked, and for what is ready to be made the subject of an interrogation, and for everything whose way it is to be made the subject of an interrogation.

The dialectical “problem” is the proposition whose way it is to be accepted by the dialectical interrogation; it comprises the dialectical premise and the dialectical problem. It is for the questioner to make the respondent accept both of these together through the dialectical interrogation that was defined previously. That is either a choice-making interrogation or an acceptance-making interrogation.

(120) [74] The dialectical premise is such that it is accepted by means of the interrogation in order to be made part of a syllogism with which – from the standpoint of dialectic – the refutation of a certain argument is sought. One adds “from the standpoint of dialectic” in order to remove from it the sophistical and probative premises. Both of these types of premises may not be used as part of a syllogism or accepted by means of interrogation. Along with that, both of these two together are used as a part of a syllogism with which the refutation of an argument is sought either from the standpoint of sophistry [*mughālata*] or from the standpoint of dialectic. One only intends by means of them that they lead to error.

As for the demonstrative premises, they are distinguished from these three in that, to be a part of a syllogism, they need not be accepted by means of interrogation from a respondent. Nor must they be recognized by someone in order to become a premise. Rather, they only become premises by virtue of the conditions they have in themselves, not in relation to the one who poses them [*wāḍiʿi*] or the one who recognizes them.

The dialectical “problem” is the proposition whose way is to be accepted by means of interrogation. It is susceptible to refutation by a questioner, and the respondent defends it by means of the method of dialectic.

⁵ The Arabic here is unclear.

(121) [75] In his book on dialectic, Aristotle sometimes means by “problem” [*al-masʿala*]: “interrogation,” “seeking,” or “problem” [*al-maṭlūb*], or the “proposition” whose way it is to be accepted by interrogation (in whatever way they are). Sometimes he means the proposition (whatever the proposition is) to which the particle of the choice-making interrogation is connected, whether a part of a syllogism or a problem. He says, “the dialectical premise is a common [*dhāʿiʿa*] problem”⁶ and means by that a proposition whose way it is to be accepted through the interrogation that is common. As for his saying, “the dialectical problem is seeking a meaning that is useful . . .,”⁷ it is apparent that he means by it the dialectical interrogation. One may interpret his saying “seeking a meaning that is useful” as a useful meaning that is sought for. However, it is apparent that the utterance “seeking” is only the interrogation itself, not that which is asked about.

⁶ See Aristotle, *Topics*, 104a4–8. ⁷ See *ibid.*, 104b1ff.

(122)

<6><Dialectical Premises>

[76.1] As regards the dialectical premise¹ that we said is a proposition whose way is to be accepted by interrogation in order to be made a part of a syllogism by which is sought, from the standpoint of dialectic, the refutation of a particular argument, it is first of all the opinions that are generally accepted by all people, or generally accepted by most people without the remaining people opposing them. Then after that it is the opinions generally accepted by the intelligent of the people, their scientists and all of their philosophers without the many opposing them, or it is the generally accepted [opinions] according to most of them without the remaining ones or the many opposing them. Then it is the generally accepted [opinions] according to those celebrated and generally known for their skill without one of them or another opposing them. Then it is the opinions deduced in each one of the arts that the practitioners agree upon, then it is the opinions that the skilled from among the people of all arts deduce and opine when no one opposes him.²

[76.2] Also, the premises whose predicates are seen in the particulars of its subjects or in most of them, and which are in general true regarding many of the sense-perceptible things – (123) these are also dialectical premises.³

[76.3] Then after this, the propositions that resemble the generally accepted [propositions] (if their resemblance is very apparent) are counted among the generally accepted [propositions] if they are mentioned along with their resemblance to the generally accepted [propositions].⁴ Also, if the existence of the thing (regarding a particular concern) is generally accepted, then the negation of the opposite of that very thing is also regarded as generally accepted, if it is mentioned along with the first [proposition] like our saying, “if he is a friend, [he] must be treated well.” If this is generally accepted, then our saying, “the friend must not be treated poorly,” is also counted as generally accepted. Also, if the existence of the thing regarding a particular concern is generally accepted, then the existence of the opposite of that thing about the opposite of that concern is also counted as generally accepted.⁵

[76.4] These are the types of dialectical premises, and the most noble of them are [those that are] generally accepted by all people or most. That is because the opinions of the philosophers and the intelligent and the

¹ See Aristotle, *Topics*, 101b11–104a36. ² See *ibid.*, 104a7–15.

³ See *ibid.*, 104a15–20. ⁴ See *ibid.*, 104a12–13. ⁵ See *ibid.*, 104a20.

scientists and the trusted only become dialectical premises because they are generally accepted by all or most of those who must receive and trust their opinions. Likewise the opinions that are specific to the arts become dialectical premises because they are generally accepted by all that the person who does not know something must (124) accept the speech of the one who knows that thing. Therefore, also received are the opinions of the skilled among the people of each art.

[77.1] It is necessary for us to know that the skilled among the philosophers and scientists and people of the arts only deduce their opinions either by means of syllogism or experience, but dialectical premises are not accepted to the extent that they are reached by syllogism or experience, rather from the standpoint that they are their opinions. For in relation to these (where “these” are their opinions), they may be conclusions, while they are premises only in connection to the art of dialectic and the dialecticians – not in connection to them and their arts. As for the existents in all the perceptible things or in most of them, if they are accepted dialectically, then they are “received” because you do not find anyone who does not acknowledge it in its universality or who does not trust it or regard it as true because of what they perceive of them. What is hidden from what they perceive of them they set down like what they do perceive and accept them as universals.⁶

[77.2] As for the similars, they are judged according to what exists in their similars [*naḥā'ir*]. That is because it is also generally accepted that whenever two things are similar to each other, each of the two of them is judged as one. However, (125) if it is said, “whenever two things that are similar to each other are understood from the standpoint that they are similar, they are judged as one,” this is less likely to be opposed.⁷

[77.3] As for the negation of contraries, it is generally accepted that two contraries are not joined in one subject, and that if one of them is found in it, the other is removed from it.⁸ As for the opposite [affirmed] in the opposite, it is also generally accepted that for something, if judged according to a particular matter, then the judgment of its opposite is the opposite of the first judgment. Just as for the things that resemble each other, when they are understood from the standpoint of how they resemble each other, their judgment is one. Likewise, when two things contrary to one another [are judged] from the standpoint as to how they are contrary, their judgment is contrary. Such things must be strengthened and fortified by means of induction.

⁶ See *ibid.*, 105b30–31. ⁷ Cf. *ibid.*, 108b9–19. ⁸ See *ibid.*, 112a24–29.

[78] When the opinions of the intelligent and the philosophers, and the opinions of the people of the arts, and the opinions of their skilled ones are used, they must be attributed to their adherents [*aṣḥāb*], as when it is said, “the weakness that a person finds in himself – not having been tired beforehand – announces a sickness,’ according to what Hippocrates the Physician said,” and, “the figures of the categorical syllogisms are three,’ just as Aristotle said,” and, “it is not necessary to remove any of the inhabitants of cities who busy themselves with more than one art,’ as Plato said.”⁹ Likewise similar things (if used) must only be used as related to the thing they are similar to, if it is better known. And likewise if (126) the opposite is used, it must be used as posed next to its opposite, and only if it is used in this way does it become received and evidently well known.

⁹ See *ibid.*, 105b12–18, and Plato, *Republic*, 370b–372e.

(127)

<7><*Topoi and Species*>

[79] Each one of these [premises] is either categorical or conditional, and each one of these is either a *topos* or a species. The “species” is the premise that is specific to each kind of syllogism that is composed of each kind of problem. The defined problem is like when we say, “is pleasure a good or not?”¹ and the premise that is called a “species” and is specific to this defined problem is like when we say, “if pain is an evil, then pleasure is a good.”

[80] The “*topos*” is the premise whose two parts together determine two parts of a particular premise, or [the premise] whose predicate part determines the predicate of another premise, like when we say, “if the thing exists in another, then the opposite of this thing [sc. the first] exists in the opposite of that thing [sc. the second].” For the parts of this premise determine the parts of our saying, “if pain is an evil, then pleasure is a good.” Like when we say, “everything that lasts a long time and is most firmly established is more perfect in the state by which it lasts a long time,” the predicate of this [premise] determines the predicate of our saying, “everything that lasts a long time is preferable according to us”; and its subject does not determine the subject of the other [premise], (128) rather, their subjects are identical, and the predicate of the one is more general and the predicate of the other is more specific. The determined [premise] is the “species,” and that which determines is the “*topos*.”

As for the premise whose subject's part determines the subject of another premise and whose two predicates are identical, that which determines between the two is not a *topos*, nor is that which is determined a species; rather, the determined is a conclusion of two premises whose major premise is that which determines, and the subject of whose minor premise is the subject of the determined [premise] and whose predicate is the subject of the determiner. Like when we say, “Zayd is an animal and every person is an animal,” our saying, “every person is an animal,” is not itself a *topos*, nor is our saying, “Zayd is an animal,” a species.

[81] Species are not of a determined number, nor delimited [*maḍbūṭa*]. Rather, they are almost infinite, as happens in many mathematical problems. Their demonstrations are like the last form of the tenth book of Euclid.² The number of *topoi* may be delimited, and it is almost possible

¹ See Aristotle, *Topics*, 104b6–7.

² For Alfarabi's commentary on portions of Euclid's *Elements*, see Gad Freudenthal's French translation of existing Arabic and Hebrew manuscripts in Hebrew University of Jerusalem's *Jerusalem Studies in Arabic and Islam* (Jerusalem: The Magnes Press, 1986).

to know all or most of them. If one of them eludes [someone], it is only something insignificant.

Among the *topoi*, there are those that are common to the certain and generally accepted [things], and these pertain to dialectic and philosophy together. Also, there are those [sc. *topoi*] that are generally accepted yet are common to the generally accepted things only, and these are specific (129) to dialectic. There are those that are sophistical only, as well as those that are common to sophistry and dialectic. It is only necessary to accept in this art the *topoi* that are common to philosophy and dialectic, and those that are common to dialectic and sophistry, and the generally accepted [opinions] that are specific to dialectic.

(130)

<8><Dialectical Problems and Dialectical Theses>

[82] The dialectical problem is the problem whose way it is to be admitted by means of the interrogation of the respondent, and which may be refuted by the questioner and preserved by the respondent. It is a proposition whose way – despite the health of the person's nature in perception and in discernment – is not to be verified by means of first science; instead, one profits from it in the certain arts when, during a discussion, one investigates it and its syllogisms in the ways previously mentioned.

[83] There are three certain arts: theoretical, practical, and logical.¹ The theoretical comprises the things “with which,” “from which,” and “in which” the science of truth comes about.

The practical is that which comprises happiness and the things by which it is obtained, and the things that obstruct one from it or which lead to its opposite. For the goal and perfection that theoretical science arrives at is only the science of truth. The goal and perfection that the practical art arrives at is to become excellent, to become firmly attached to the laws [*nawāmīs*] – not only that we know, but rather that we do only that through which we are happy, and that we are happy along with it. This is specific to practical philosophy. (131) Practical philosophy is not that which investigates everything a person is able to do from whatever standpoint that action exists, or in whatever condition. Indeed, mathematics investigates many things whose matter is to be accomplished by choice, like the science of music and the sciences of mechanics. Much of what is in geometry, arithmetic, and the science of optics and likewise natural science investigates many things that may be done by art and choice. And yet not one of these sciences is a part of political science, but rather they are parts of theoretical philosophy, since it only speculates about these things not from the standpoint that they are vile or noble [*jamīla*], nor from the standpoint of how their performance makes one happy or miserable. However, if these things about which these arts speculate are accepted from the standpoint as to how their performance is able to make man happy or miserable, then they pertain to practical philosophy.

The logical [arts] are those that comprise the things that are used as tools and as an assistant in the deduction of what is correct in each one of the sciences.

[84] It is this that Aristotle intended by his saying, “the dialectical ‘problem’ seeks a meaning that is useful in preferring something and fleeing

¹ Cf. Aristotle, *Topics*, 105b19–21.

from it, or for the truth and knowledge – either in itself, or because it is helpful for something else similar to these.”² For his saying, (132) “useful in preferring something and fleeing from it,” he means by it happiness and misery and everything that leads to these two, and he did not say, “that is useful for a particular science that is preferred or fled from”; rather he said, “useful in preferring and fleeing” because he wanted to mention the end of political philosophy. For its end is not the science of what one prefers or avoids, but rather that he prefer something and avoid another. His saying, “or for the truth and knowledge – either in itself . . .” he meant by it theoretical philosophy, and that is because truth and knowledge are its ends. By “or because it is helpful for something else similar to these” he meant the logical things.

[85] From this it is apparent that he opined that the philosopher is the one who has reached the goal of the two parts of philosophy. That is because philosophy has two parts: theoretical and practical. The end of the theoretical [part] is truth and science only, and the end of the practical [part] is preferring something and fleeing another. The end of the practical [part] is not attained by man by his own insight except by a science prior to the action or along with the action. Its science, if attained without the action, is a futile [*bāṭil*] science, because the futile things are those that exist but are not connected with the end because of which they exist. Likewise, the adherent [*ṣāhib*] of theoretical science is not a philosopher through speculation (133) and investigation without attaining for himself the end for the sake of which speculation and investigation exist – namely, the establishment of demonstrations. Likewise, the adherent [*ṣāhib*] of practical science does not become a philosopher without attaining for himself its end.

[86] It is apparent that it is not at all necessary that the premises that are attained with certitude by means of a first science be exposed either to establishment or refutation or doubt, or set down as dialectical problems. And [it is equally evident] that everything that one does not certify by a first science, and where the way to certainty in it is that its individuals be first of all perceived either one time or many times, and [yet] that person does not have the perception by which the individuals of that thing are attained, and he doubts it, then these are not set down as dialectical problems. Likewise, if a particular man is deficient by nature in his intellect and because of that does not attain for himself many of the other principles, and he doubts whatever he does not attain of them, these are not set down as dialectical problems. Also, dialectical problems

² Cf. *ibid.*, 104b1–3.

are not set down regarding the thing that is not known for certain by means of a first science, despite the health of the natural constitution in perception and speculation, when the investigation of it is not useful in the three sciences, or when it is harmful.

(134) [87] The other [premises] must be set down as dialectical problems. Among them are the propositions about which no one up until our day [*ilā ghāyatinā*] has put forth any opinion whatsoever that it is thus or that it is not thus (about which an investigation has already been made). That is because, regarding these propositions in this condition, it may be possible that no one advances an opinion at all due to the fact that it did not occur to anyone who preceded [us], but rather only is conceived of now; or because it had already been investigated by those who preceded but [they] did not provide any syllogism for it. For such a situation [regarding propositions], how is it possible to set down a thesis between a questioner who seeks its refutation and a respondent who seeks to preserve it? For when the questioner does not have a syllogism for it, how does he seek its refutation? However, [such propositions] are among the problems with which one investigates, either in dialectic or in philosophy. Therefore, it is not necessary to set the similar [propositions] down as dialectical theses, rather it is necessary that the propositions about which not a single opinion has been verified up until our day be propositions where syllogisms have been provided for them, [but] whose firmness did not reach (according to anyone from among the people of speculation) the point where these propositions were set down as opinions for them. Among them are propositions about which philosophers and the people of speculation have opposing opinions, and those propositions about which the many have opposing opinions. Among them are propositions regarding which (135) the many and the philosophers have opposing views.³

If, for each one of these, one proposition is isolated, without there being a contrary one that opposes it, then the soul submits to this proposition because of that, and accepts it. If the philosopher celebrated for his skill is of a certain opinion about something, and neither one of his peers nor one of the many opposes him, his soul acquiesces to that opinion and he trusts it, even if no one knows anything more about it. Likewise, if the philosophers agree about an opinion and the many do not oppose them, our souls acquiesce to what they opine; and likewise for the many, if they are confined to one opinion that not one of the philosophers opposes, our souls acquiesce to that opinion.

³ See *ibid.*, 104b31–34.

When each one of the two [opposed] things strengthens an opinion so that it becomes received, and if the two of them [sc. propositions] oppose each other regarding a certain opinion, then that opinion is doubted. This is because the thing [sc. proposition] that strengthens the opinion, if it is confined to it, becomes doubtful if opposed to its corollary in that opinion. Therefore, if the philosophers oppose themselves over a proposition, or the many oppose themselves over it, or the many oppose the philosophers over it, it becomes doubtful. However, if we do not have anything that makes us doubt the proposition except the opposition of the group to them, without the syllogisms that the opponents of the opinions set down regarding them [sc. these propositions], that about which (136) we doubt are opinions to which we have become favorably disposed because of it [sc. this proposition]. When a questioner and respondent discuss this proposition, and one of them refutes it and the other establishes it, neither of them has a proof with which to contradict his opponent except to mention the group that professes that opinion and who are favorably disposed to it, until his speech helps. If the two of them [1] discourse by means of arguments – and they do not have arguments other than the arguments with which each one of them offers the proposition of his teacher [*sāhib*], and which contradicts the master of his opponent – the arguments tend to become rhetorical and not dialectical. Therefore, if they [2] want to discourse according to the method of dialectic, it is necessary that each one of them has syllogisms that establish and refute each one of the two opinions taken from those who profess them. Therefore, regarding dialectical problems, it is not necessary to be limited to doubts that come from being favorably disposed to them in the manner of those who profess them. [Rather, one should] have along with that syllogisms that establish and refute these opinions about which the philosophers among themselves oppose each other [*taḍādd*], or about which the many disagree among themselves, or about which the many oppose [*ḍādd*] the philosophers. For when there are no syllogisms regarding them, these become included among things that are investigated, and not set down as dialectical theses.

Therefore, when Aristotle enumerates the kinds of doubtful propositions from (137) the standpoint of the contradiction in the opinions of those who profess them, he does not limit himself to them [sc. these propositions] without complementing them by mentioning the problems that have contrary [*muṭaḍādda*] syllogisms, considering that the contrariety [*muḍādda*] of the philosophers among themselves does not occur except by means of contrary [*muṭaḍādda*] syllogisms, and likewise the contrariety of the many between themselves, and the contrariety between them and the philosophers.

[88] For the individual whose first task is to find contrary [*mutaḍādd*] syllogisms, he must first of all know the opposition [*taḍādd*] of the opinions of the people; then he seeks their contrary [*mutaḍādd*] syllogisms.⁴

Among them [sc. problems] are the paradoxical and unacceptable arguments that are opined by a number of people of renown as well as those celebrated for their skill in the sciences. That is, generally accepted opinions exist, and we find a group celebrated by all for their skill in the sciences that contradict these generally accepted opinions. The renown of the speakers who oppose the generally accepted [opinions] and the notoriety of their skill lead the soul [to suppose] that they perhaps know what others do not. That leads us to doubt these generally accepted [opinions]. These generally accepted [opinions] become dialectical problems, like the speech of Parmenides (that being is one), and the speech of Zeno (that no existing thing moves itself).⁵ This type [of opinion] as well – if, according to the person, there is no syllogism in it – is not a problem able to be set down as a dialectical thesis whose refutation and preservation is sought.

(138) [89] Among those who break the consensus and oppose the generally accepted [opinions] is someone from among the people of science who is neither renowned nor celebrated for his skill, or he could be someone who is not among the people of science. However, he has a syllogism with which he strengthens his unacceptable opinion, and with which he opposes that which is unanimously accepted. That which is generally accepted becomes a dialectical problem because his syllogism takes the place of [the syllogism] of the one who is renowned for professing the opinion and causes doubt regarding the generally accepted. These two dialectical problems are properly known by the name “thesis.” The two of them are named “paradoxical opinion.” If the one who opposes the generally accepted [opinions] is a person of no renown, or who does not possess a syllogism, that disagreement is not paid attention to, nor does that disagreement over that which is generally accepted become a problem. That opinion is named “strange” and “arbitrary” and “fraudulent.” There is a difference between the thesis and the strange [opinion], for the thesis and the paradoxical opinion is the opinion that contradicts the generally accepted, if it is an opinion of someone of renown among the people of science who is celebrated for his skill, or if it is an opinion of someone of no renown who has a syllogism that

⁴ See *ibid.*, 105a34–105b10.

⁵ Cf. *ibid.*, 104b19–24, where Aristotle attributes to Melissus the thesis that Alfarabi here attributes to Parmenides. For an allusion to the controversy surrounding Zeno, see *ibid.*, 160b19.

strengthens [this opinion] and opposes the generally accepted. In general, [the thesis is] that which contradicts the generally accepted [opinion], if it is accompanied by a syllogism that strengthens [this opinion] and opposes the generally accepted [opinion]. The “strange,” the “arbitrary,” or the “fraudulent“ [opinion] is the opinion that contradicts the generally accepted, if it is an opinion of a person who is not renowned, and who does not have a syllogism.

(139) [90] However, all the dialectical problems are called “theses.”⁶ “Thesis” is a name of a genus some of whose species are called by the name of its genus. That name is spoken of in a general and a specific [way], as is the case for many names.

“Thesis” [*al-waḍʿ*] is an equivocal name spoken of in many ways. One of them is the category that is called “thesis.” That has already been mentioned in the book *Categories*. The second is the definition, [because] it is called “thesis.”⁷ The third is taking something without demonstration or proof even though it is in need of demonstration and proof and is used as a premise that is named “thesis.”⁸ The convention for something without that being at all by nature is called “thesis,” and therefore it is said that words are by convention [*bi-l-waḍʿ*], not by nature [*bi-l-ṭabʿ*]. The conditional [*al-sharṭiyya*] premise is also called “thesis” and is called “*waḍʿiyya* premise.” The argument against the one with whom one discourses is called a “*waḍʿī* syllogism” when it stipulates [*yashtarīʿ*] that, if some thing is in such a condition, then it is thus for the other things in such a condition. Everything that is posed in order to seek its syllogism is also called “thesis.” All of the dialectical problems are also called “thesis,” and they are more specific than problems in an absolute sense. Paradoxical opinion, that is, [the opinion] contrary to the generally accepted [opinion], if it is also accompanied by a syllogism that strengthens it, is also called “thesis,” and it is more specific than the theses with which the dialectician occupies himself. These are the meanings that are spoken of [with the word] “thesis.”

⁶ See *ibid.*, 104b34–36.

⁷ Cf. Aristotle, *Posterior Analytics*, 72a22, for a definition of “thesis.”

⁸ Cf. *ibid.*, 72a14–16, and Alfarabi, *Kitāb al-Burhān*, in *Kitāb al-Burhān wa Kitāb Sharāʿiṭ al-Yaqīn*, in *Al-Manṭiq ʿInda al-Fārābī*, vol. 2, ed. Majid Fakhry (Beirut: Dar El-Machreq, 1987), 87.

(140)

<Generally Accepted Premises Concerning Moral Characteristics>

[91] It is evident that the generally accepted [opinions] to which the opinions that are strengthened by syllogisms are opposed only become problems because of the syllogisms' opposition to them. Those which we find contradicted by a person of renown or syllogisms were already dialectical premises before the existence of the syllogisms that contradicted them. Therefore, it is not impossible that one will discover syllogisms in the future that oppose many of the other generally accepted [opinions] and about which – up until our time – no opposition from either those who are renowned or a syllogism is known. These also become problems after being premises. It is evident that they do not become problems and syllogisms are not found. Nevertheless, it is permissible to expose them to refutation. If it is not permitted to expose them to refutation, then, if something that opposes it is found, one does not pay attention to it and they do not become problems.

Also, regarding many of the generally accepted and universal [opinions], it is not evident at the outset that they are true even though they are universal. Therefore, when we want to preserve the true part from among them, it is necessary that we expose it to refutation. Therefore, it is necessary to learn which of them must be exposed to refutation and which must not. If that which should be exposed to refutation is actually exposed, then how must it be refuted?¹

(141) [92] I say that, among the generally accepted premises are those that concern moral characteristics and common actions that are exactly the same for all nations, by means of which they meet and, if they meet, are well ordered. These are such that all opine that every person must be educated by them, and be habituated to them, and that they be accepted and adopted either willingly or unwillingly. And, whenever one refrains from either being educated by them or devoting oneself to them after having been educated by them, he is punished. They are such that the people opine that they will educate their children according to them, and firmly establish them in their souls, and habituate them to these; and they punish them [sc. their children] if they oppose them in their hearts. If they refuse them after they grow older, they punish them for it by means of things they opine to be punishments, such as contempt, abuse, beatings, and other things. These [opinions] do not have to be exposed to doubt, or set down as dialectical problems, because they are among the principles of

¹ Cf. Aristotle, *Topics*, 104a3–8.

the practical things, and because they may not be established or refuted by what is more evident than they (only by those that are less evident and less renowned) and because the one who doubts them is not adverse to belittling them or placing them in a form such that it doesn't matter whether one rejects or adheres to them. Those who doubt them become vicious, develop a vile character, and do not associate with the people of cities. If they do not, by means of this, become vile, they are thought to be evil [*sharr*]. For, as Aristotle said, a person should not be evil [*sharīr*] or thought to be evil [*sharīr*]. That is like (142) worshiping Allah the highest, honoring parents and relatives, being charitable to the needy, treating well those who treat others well, and being grateful to benefactors, as well as similar moral characteristics and actions. For it is not necessary to doubt them, and for it to be said, "is it necessary to worship Allah or not?" and, "is it necessary to honor parents or not?" Likewise for the others. Such things are not exposed to establishment and refutation.

[93] Regarding these generally accepted premises, all also opine that they ought not to be firmly established in souls by means of speech only but rather along with our habituation and perseverance in their actions, along the lines of what is the case concerning the knowledge of the practical arts, for they are firmly established in souls only with man's habitual [repetition] of their actions, not by speech.² Those generally accepted [opinions] whose way is not to be firmly established in souls by employing speeches are not susceptible to investigation, nor must any syllogism be sought for them that establishes or refutes, since the way of its being firmly established in souls is by persevering in its actions, and by punishments for refusing them – not by persuasive speech.³

[94] Among them [sc. generally accepted premises] are the generally accepted ones whose individuals are sense-perceptible. Like when we say, "snow is white," or milk and "white exists," and such, one should not doubt (143) these [premises] and similar [premises], nor are they susceptible to establishment and refutation. Nor are they set down as dialectical problems: this is because if a person is ignorant of these, or is not cognizant of them, they may not be made evident to him by means of a syllogism at all, rather, it is necessary – in making them evident to him – that he perceive them. For if he does not have the perception with which this may be discerned, or if he does have it but does not use it to examine them, or if their individuals are such that their sense is not perceived, then

² Cf. Alfarabi, *Kitāb al-ʿAlfāz*, par. 40.

³ Cf. Alfarabi, *Attainment of Happiness*, pars. 42–49, and Alfarabi, *Philosophy of Plato*, par. 36.

they remain unknown to him and it is not possible to find anything more evident than these which may be used to make him know them. It is also not suitable for one to exercise by means of them or regarding them, for one only exercises regarding that which, when unknown, may become evident by means of speech and syllogism; and the way of this is not to be made evident by a syllogism.

[95] Also, the one who does not know a certain sensible object, and did not perceive it at all, perhaps may not imagine that sensible object. How is it possible to investigate that which is not imagined, and where the meaning of its utterance does not reside in his soul? Therefore, he only investigates its name exclusively and, if that is made evident to him, he listens to a speech without conceiving the meaning of anything from it. Similarly, there may be among people someone who is, in his natural constitution [*fiṭra*], deficient or weak for knowing many of the premises that are primary and certain. That natural deficiency in the rational part [of the soul] is similar to the man who is blind from birth. For just as the person who is blind from birth is not able to recognize the colors by his sight, likewise the person naturally deficient from his birth in the rational (144) part is not able to attain many of the primary premises. It is not impossible for him to doubt these premises, just as the one blind from birth may doubt the existence of the colors. Just as there is no way for us to make the existence of colors evident by means of speech to the one who doubts colors, likewise there is no way for us to make evident by speech the truth [of the primary premises] to the one who doubts these primary premises. Just as the one blind from birth only hears from us a speech about colors without forming from that discourse a meaning in his soul, likewise this one only hears from us a speech regarding these premises, without forming a meaning in his soul from that speech. Although the existence of colors is evident to the one blind from birth, and the existence of any of the primary premises is not evident to the one who is naturally deficient in the rational part [of his soul] from the beginning of his existence, it is not easy to persuade many among us that he is affected by this deficiency.

[96] As for the one who does not know many of the primary premises, or doubts them, and investigates them because he does not understand the meaning of their utterances, or because it is his custom not to use them in the actions that he has pursued up to this time, he therefore ignores their examples and individuals, and his mind does not relate them to anything that exists. He is other than (145) the one that was previously mentioned. That is because, for both, what is doubtful in them may be made evident by speech. As for the one who is not cognizant of them [sc. the primary premises], because he does not form the meanings of their words, their

meanings are made evident by speeches; as for the others, [their meanings are made evident] by means of similitudes taken from the individuals and the existing things. Regarding the things about which these two doubt, they are also not set down as dialectical problems.

[97] However, if the generally accepted [premises] regarding moral characteristics and actions whose individuals are sense-perceptible are not subject to refutation, many of their universals that are not evidently true, to the extent that they are universals, remain in part false; and the true part is not distinguished for us, nor are they useful with regard to the principles of the sciences. Therefore, it is necessary that they be subject to refutation. However, arguments that oppose them in a universal way need not be sought because that eliminates them universally. Rather, they are subject to objection, and arguments that oppose them to partial objections are sought in order to preserve the true part of each one of them; they then become an introduction to the sciences. Regarding those whose individuals are sensible, one ought to guard against setting down any of its sensibles in the objections that are opposed to a part of them. Rather, an opposition ought to be presented in which a condition or conditions follows necessarily and by which it is limited – I mean these conditions concerning what among them [sc. premises] is true, and what sensibles remain from among their individuals. Therefore, the best (146) for these [sc. premises] is not to set them down as problems, or connect them to their conditions that eliminate the false part, or that which does not eliminate any of their sensibles from them. For it is by means of these conditions that the ignominious is eliminated for whatever generally accepted [premise] that is set down as a problem.

In this way one proceeds with regard to many of the generally accepted [premises] concerning moral characteristics and common actions; for if they are then used, and if accepted universally or absolutely without being connected to a condition or conditions, they are often harmful. Therefore, one ought not to set these down also as dialectical problems or expose them to refutation with their partial oppositions so that these things facilitate the removal of their conditions which, if used together with them, eliminates from them the harmful thing that attaches to it when it is used absolutely. It is necessary that, whenever problems are set down, conditions that eliminate from them the ignominy be used along with them. For example, if we want to say, “is it necessary that a person hate his parents or not?” and, “is it necessary that a person honor his parents or not?”, we add to that a condition that eliminates the ignominy of the question, and so we say, “is it necessary that a person honor his parents if they are infidels, or not?” and, “is it necessary that he hate them

if they are evil or not?” and, “is it necessary that they be obeyed if they command that which is opposed to what is found in the laws [*nawāmīs*], or not?”⁴ These conditions, and similar ones, eliminate the ignominy from these questions. It is then not objectionable for them to become problems. Because of the universal in which conditions of the principles of demonstrations are found, (147) one is on guard when striving to set down these problems when the existence of these conditions in them [sc. the premises] is not evident, or seeking arguments for them that oppose them with universal objections. And regarding those that are found from among these in which the conditions of demonstration are perfect, one ought not to expose these at all to the dialectical opposition.

It has been made clear which generally accepted [premises] are set down as problems, and which are not set down [as problems]. It has also been made clear which from among them are set down as dialectical problems and theses, as well as in what manner and condition they should be accepted so that ignominious problems are not attached when we accept them, and which are outside the method of dialectic.

[98] As for the one who doubts the premises whose way is to be accepted by everyone in his actions and habits, and who is punished if he refuses to act according to them, and the one who doubts those [premises] whose individuals must be perceived, he does not turn to them or set down that which he doubts as a dialectical thesis at all; and he also does not set down [as a dialectical thesis] all of the paradoxical opinions, especially if he only doubts those whose parts are adopted in their actions as objects of action, and [for which he] is punished if he refrains from them, as well as for those whose parts that are reached by sense (or which should be reached by sense-perception) and the more so if the doubt over them is universal. That is like the one who offers a syllogism with which he seeks to make evident that not a single one of the fathers in whatever circumstance should be honored. This is what (148) Aristotle intended by his saying,⁵ “it is not necessary for us to examine every problem or every thesis; rather, it is necessary that our examination concern that which one doubts and which requires an argument, not a punishment or sense-perception. That is because those who doubt and say, ‘is it necessary to worship Allah or not?’ and, ‘is it necessary to honor parents or not?’ are in need of punishment. Those who doubt and say, ‘is snow white or not?’ are in need of sense-perception.”

⁴ See Aristotle, *Topics*, 105b22–23. ⁵ *Ibid.*, 105a3–7.

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<The Determination of the Dialectical Theses>

[99.1] Regarding those opinions over which philosophers differ and oppose one another, it is necessary – for many of them – to enumerate what they are.¹ That is because for many of them, it is not necessary to set them down as dialectical theses. That is because among them there are those for which it is not possible to find generally accepted premises – proximate or distant – that establish or refute them. Rather, they are verified only by means of premises that do not occur to the many, and by means of things about which the many do not have any opinion at all – whether something is so, or whether it is not so – nor are they also useful for them.² This is like saying, “does the moon have – in relation to the tricycle and hexacycle of the sun – a different orbit distinct from its divergent orbit in relation to its conjunction [with the sun] and its opposition, or not?” and, “does the apogee of the sun move successively around the ecliptic or not?” Regarding these matters about which the practitioners of mathematics differ, and the premises that clarify their condition – whatever it is – the many do not have any opinion or thought about them. Rather, only the practitioners of mathematics know them. One must not set down any dialectical theses from such problems, but only make them scientific problems.

[99.2] Those things that are demonstrated in the sciences, and for which there exist generally accepted premises that establish or refute it, or both, <may be set down as dialectical theses.> However, if that thing is very close to the primary and certain premises, and is demonstrated by primary demonstrations from the art, then it is clear with respect to it that there is no need to exercise with it or about it, since it is not difficult for the one who examines it to find its demonstration, <except> due to the deficiency of his natural disposition and character, and his weakness in discovering his syllogism and properly grasping [this thing] if one does not lead his mind or prepare him to find his syllogism, or because another thing is connected to [this thing] which makes it difficult for him to distinguish it from another. For man does not attain from the outset the nature that is specific to him, and therefore the existence of its demonstration is difficult. As for the one who does not need anything of that in finding his syllogism, but rather discovers his demonstration without reflection or with little reflection, he does not need to train in it or make frequent use of it. If it is necessary to teach the many, it is possible to teach them these and their similitudes by means of demonstrations that are discovered in them,

¹ Cf. Aristotle, *Topics*, 104b12–18. ² Cf. *ibid.*, 159a37–159b37.

since these demonstrations are not difficult for them, since they are evident in themselves, and also fall under the group of generally accepted [premises].

[99.3] This is what Aristotle intended by his saying, “it is also not necessary to doubt those about which the demonstration is very close, nor those about which there is a (151) very remote demonstration. For there is no doubt in the former, and the latter is very remote from the [objects of] speculation of the training art.”³ He intends by his saying, “very close,” close to the primary demonstrative premises whose demonstration is discovered without a thought or reflection or with very little reflection. For what is thus, training in it and subjecting it to establishment and refutation is superfluous. He intends by, “what is very remote,” that whose way is far from generally accepted premises. “Remote” means that it has no connection whatever with them, like what we mentioned concerning the divergence of the orbit of the moon. As for that which may be established or refuted by means of generally accepted premises and by many successive syllogisms, as numerous as they are, it is not impossible that they be set down as dialectical problems. He did not intend by his saying, “very remote” that which is remote from the generally accepted [premises], rather, that which it is not possible to make evident by anything at all from generally accepted premises. In general, everything that is able to be established or refuted by means of generally accepted premises, and are among those things that have some kind of usefulness in the three certain sciences, may be set down as dialectical problems.

[100.1] Among those things over which the opinions of philosophers differ are those which are of considerable utility. Their importance and dignity is either its eminence in itself, or the eminence of the things known by means of it, or the great utility for the many in understanding them. Or their importance is due to (152) the difficulty in discovering their causes, or to the reason for the difficulty in discovering their demonstrations, such as our saying, “is the world eternal or not?” This is something over which philosophers differ, and it is important because the problem in itself is noble of existence, since it concerns the entire world. They agree on the nobility of that thing to which this science leads: the knowledge of this is the method to the divine science. Also, the discovery of the causes of its eternity (if it is evident that it is eternal) is difficult, and the discovery of the causes of its creation (if it is evident that it is created) is also difficult. Also, the understanding of the many about it is of great utility for them. Nevertheless, if the error in similar things occurs, it is a cause for the error

³ Cf. *ibid.*, 105a7–9.

in very many things, and if correctness concerning it occurs, this is a cause of the discovery of the correctness in very many things. Likewise our saying, “is the world finite or infinite?” and, “may the body be divided infinitely?” and, “is it possible that something may exist but not exist at all in the past or in the future” and, “does there exist something that – in its nature – may be destroyed, yet it has neither been destroyed in the past nor will it be destroyed in the future?” and, “is it possible for that which did not cease to exist in the past to become corrupted in the future?” and, “is it possible for that which does not cease to exist in the future that it may not have existed in the past?” Such things are truly to be investigated (153) and grappled with and one ought to make every effort [to discuss such concerns] in dialectic. This is what Aristotle intended by his saying, “and that for which we do not have a proof, or which are great in our estimation – regarding which our saying ‘why that?’ is difficult, such as our saying, ‘is the world eternal or not?’”⁴

[100.2] These things that he [sc. Aristotle] brings forth are very dialectical due to the fact that it is not at all possible to discover a certain syllogism for our saying, “is the world eternal or not?” – to the extent that it is taken in this formulation – neither for its being eternal nor for its not being eternal. That is because our saying “the world” is an equivocal [*mushakkaka*] utterance that is also taken as underdetermined [*muhmala*]. For if it is taken in its totality thus, then <it has> many parts, some of which make clear that it is not eternal and some of which one may be able to discover a particular syllogism for [in order to indicate] that it is eternal, and some of which that do not clarify what condition it is. If it is taken in its totality, sometimes eternity is believed about it, and sometimes creation. Always two opposing syllogisms are discovered for it. It is only necessary to consider regarding each one of its parts whether or not it is eternal, and in how many ways the thing may be eternal, and in how many ways one may say that it is not eternal. This is the method of discovering its demonstration. As for the primary method, its demonstration may not be discovered; rather, the syllogisms discover by it are only opposing syllogisms. Therefore, when Galen the physician was not led to the method of demonstration (154) for this problem especially, he believed that there was no demonstration for it, and that the demonstrations for it were equivalent, and that these are the things about which one becomes perplexed. Therefore, Aristotle set down such problems as those problems which are specific to dialectic, since there is controversy over them and, when taken in these ways, the controversies are incessant and uninterrupted.

⁴ Cf. *ibid.*, 104b13–17.

[101] As for the insignificant questions of little utility whose correctness may be easily discovered by a person – even if it is something over which the philosophers differ and even if they are problems – it is not necessary to busy oneself greatly over them. Such as our saying, “must a person clean his clothes or leave them soiled?” or, “must a person eat what another has or not?” and, “must a person extend his legs in the presence of people or not?” These and similar questions are paltry, even if the Ancients differed over them. Yet despite that, they are also dialectical, except that in the investigation these others that are great must have precedence.

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<9><The Universals>

[102] Since the species of premises are commensurate with the species of problems, it is necessary that the genera of premises that are *topoi* be commensurate with the genera of problems. It is necessary, then, that we enumerate the genera of problems on which the *topoi* depend.¹

The genera of problems differ in accordance with the differences among their predicates [*maḥmulāt*], because the predicate of the problem is that by which the problem becomes a problem: because we only seek the existence of the predicate in the subject. For each problem, what is sought from it is only whether its predicate exists in its subject or does not exist in its subject. The subject of the dialectical problem is always universal. Some of the dialectical problems and theses are general and some are specific. Those that are general are those for which one seeks (or for which one posits) whether the predicate exists in the subject or does not exist, without it being clear in what way it exists. As for the specific problems, these are those for which one posits that the predicate exists in the subject in one of the ways that the existence is attained. The kinds of predicates where each one that exists exists in a certain way is either a definition (156) for the subject, a property, a description of it, a genus of it, a species of it, or a differentia, or an accident.² Refutation and establishment are also divided in this way, for the one who establishes may establish in a general manner, and the one who refutes may refute in a general manner. That is because the one who makes clear that the predicate exists for the subject, or does not exist for it, establishes a general proof; and likewise for the one who refutes. As for the predicate that belongs to the subject to the extent to which it is a genus for it or definition for it or property for it or otherwise, it is established only in a specific manner. Likewise, the *topoi* that are established or refuted are divided in this way. Among them there are *topoi* that are established or refuted only when the predicate exists in the subject or does not exist in it. Other *topoi* are established or refuted when the predicate exists for the subject as a genus, or as a property, or as an accident, or in another way.

[103.1] “Definition”³ is a speech that signifies the meaning [*maʿnā*] of the thing by which it exists. It suffices here to describe “definition” to this extent; the thorough explication of the matter is in the *Book of Demonstration*. “The meaning of the thing by which it exists” signifies those of its properties [*awṣāf*] by which its essence and existence subsists.

¹ Cf. Aristotle, *Topics*, 101b13–16. ² Cf. *ibid.*, 101b17–19 and 103b3–6.

³ *Ibid.*, 101b38–102a18.

When speaking about it, one is not limited to “a speech that signifies what the thing is [*mā huwa al-shay*],”⁴ because the definition of genus, when attributed to the species, is a speech that signifies what the thing is, and is not the definition of that thing, because the definition of the genus is more general than the species, (157) since it occupies the place of the genus. Therefore one adds [something] to it, and it is said, “its meaning by which it exists” in order to comprise all of the properties by which it exists and its essence subsists. Therefore, it is necessary that the definition of the thing be a property of the thing, and be a reflection of it in the attribution, distinguishing it from everything that is not it, and offering the causes with which its essence subsists. Therefore, the parts of the definition of the thing must precede the thing by nature, and must be better known than the thing. It is necessary that there not be anything in it [sc. the definition] greater than that by which its essence subsists, for all that increases it is an accident for it.

[103.2] “Definition” may [describe] either that which a name signifies or that which a speech signifies.⁵ As for that which [defines] that which is signified by a speech, this is like the definition of the eclipse of the moon as “the darkness of the moon due to its being hidden from the sun by the earth.” Speech may take the place of the definition when the definitions of the parts of the definition are taken. Their totality becomes a signifier of that which the totality of the parts of the definition signifies. For example, “rational animal” may take the place of, “the breathing, sensing substance that possesses the faculty with which to obtain the sciences and arts and with which the noble and base actions are distinguished.”⁶ Definition also takes the place of description (the description is a speech): the definition is a signifier of that which the description signifies. Since that is so, the definition of the thing and its description both signify the very same thing. Likewise, [it is the same for] the definition of the thing and its signifying speech – whether that speech takes the place of (158) the name for what does not have a single name, like “the straight line” and “the paired number,” or [that speech is] that totality of the definitions of the parts of the definition, or that speech is a description. The definition and that speech are numerically identical, since they signify the very same thing.⁷ Making known the thing by another name that it has which is better known than the first is not providing a definition, even if it is treated like the definition, and that is because the two of them signify that which is numerically the same.

⁴ Ibid., 102a31–32. ⁵ Ibid., 101b36–38. ⁶ Cf. Aristotle, *Posterior Analytics*, II.8, 10.

⁷ Cf. Aristotle, *Topics*, 101b7–9.

[104] “Property” is the predicate that does not signify what the thing is; [the predicate] that belongs to all of it, that belongs to it alone and always, is the true property⁸. This property is convertible with its subject in attribution, and distinguishes it from everything other than it, all the time, and does not signify the whatness [*māhiyya*] of the thing. This property is sometimes a speech and sometimes a single [*mufrada*] utterance. If it is a speech, it is specifically [known] by the name “description,” and if it is a <single> word it is named “property.”⁹ The property that is not true, and may be found in the species alone, not for it entirely, like the white hair of the man, and the elegance of the human being – and I don’t mean the possibility of becoming elegant, for that is a true property. Among them is what is a property in relation to another particular species, like “biped,” for it is a property that distinguishes man from horses. Among them is the property that is relative and at a certain time, such as our saying, “Zayd is the one to the right of whom is ‘Amr,” for it is his property at a certain time. The true property shares with (159) the definition [the fact] that it exists in the subject, and for it only, and for all of it and always, and is convertible with it in the attribution, and distinguishes what is other than it; it is opposed to it [sc. definition] in that it does not signify its substance [*jawhar*], and that it is never a speech; rather, it may be a single utterance, while the definition is always a speech.¹⁰

[105] “Genus” is the predicate of many things that differ in kind, and is a response to the question “what is.”¹¹

“Differentia” is the predicate of many things that differ in kind and is a response to the question “what thing is it in its substance?”¹² Differentia has most things in common with the genus. For it makes known the substance of the thing just as the genus makes it known,¹³ and it is also predicated of many [things] that differ in kind, and is a part of the definition just as the genus is a part of the definition. The two differ in that differentia distinguishes the species from that which shares an approximate genus; also, the differentia follows the genus in the ordering.

It is necessary that you know that differentia, if its matter is closely studied according to the method of demonstration, may not be predicated of that which is other than the species for which it is the differentia.¹⁴ However, [the differentia] that is used here is the generally accepted differentia, and that which is defined here as differentia is its generally accepted definition. The generally accepted differentia is like “the

⁸ Ibid., 102a19–30. ⁹ The Arabic text here is unclear.

¹⁰ Aristotle, *Topics*, 102a3–5. ¹¹ Cf. ibid., 102a31–32. ¹² Cf. ibid., 1.4.

¹³ Cf. ibid., 122b16–17. ¹⁴ Cf. Alfarabi, *Kitāb Al-Alfāz*, par. 29.

walking” and “biped,” both of which are differentia for man, for each one (160) of them is predicated of many things that differ in kind. Genus and differentia both have in common with the definition that both belong to the species and to all of it and always; and they differ from it [sc. the definition] in that both are predicated of more than one species, and that each one of the two is most certainly not a speech, while the definition is always a speech.

[106] “Species” is predicated of many [things] that differ in number and is a response to the question “what is.” It is clear that this species is the ultimate species, for the intermediate species is a genus and is distinguished only in relation, because the genus is only called “species” in relation to a genus more general than it, and to which it is predicated.

[107] “Accident” is described in two ways: one of them is that it is what exists in the thing without being a genus, species, differentia, definition, or property. The second is that it is what may or may not be found in the very same thing – whatever thing it is.¹⁵ Two descriptions are offered because a single one is not sufficient in itself to understand the accident. That is because the accident may be separated or not separated, and the second [description] only comprises separate [accidents]: the first comprises the [accidents]: that are separated and not separated, except that it does not offer the nature of the accident; the second offers its nature, except that it is the nature of the separated [accident]. The first makes known (161) what is not the accident, not what the accident is; the second makes known what it is. The first may not be understood without understanding beforehand each <the genus, species, accident, differentia, and property, while the second> is understood by itself.¹⁶

The opposition of the accident to these other things is clear, for it does not share with them except in that it belongs to the species. As for the rest of the differentiae, the accident is opposed to them in all their [differentiae]. That is because the accident may belong to some of the species and, for these [universals], it is not possible to find one of them belonging to some of them. The accident sometimes may belong to the species and sometimes not belong to it; but the species stays the same with respect to its whatness. For each one of these other [universals] nothing may be found in them that may be separated from the species.¹⁷

[108] From the standpoint of what species it is for its subject, “species” is not at all used as a predicate in a dialectical problem, since, if it is a

¹⁵ Aristotle, *Topics*, 102b4–7; cf. Alfarabi, *Kitāb Al-*Alfāz**, par. 31.

¹⁶ The Arabic text here is corrupt; the translation follows Mallet's suggested edits.

¹⁷ Cf. Aristotle, *Topics*, 109a10–13.

predicate as a species for its subject, then it is a proposition which is individual; it is not dialectical but rather rhetorical and poetical. However, since the species may be convertible with its definition and its property, it may be predicated of them. Likewise, it may be predicated of what is an accident for it, such as our saying, “the man is a human being.” The human is a species, except that it is not a species of the man, rather, the man is a man from the standpoint of an accident that is tied (162) to the human, and that is masculinity. The rest of the universals are used as predicates in the dialectical problems. All of these predicates have in common the fact that they exist in the subject, and then they differ in the differing kinds of their existence, for each one of them has a type of existence specific to it, other than another. Between them, the accident has greater evidence, because it does not share anything with them [sc. universals] except existence. The others resemble one another and differ from one another with respect to other things. Each one of them shares one thing or many things with another and is distinct in one or many things. Each one of them is established only when that which it shares with another is verified in it along with what is completely specific to it. It is not established except by verifying all of its conditions, and it is refuted by refuting each one of its conditions. The verification of each one of them is more difficult than its refutation, and to the extent that its conditions are more numerous, its refutation is easier and its verification more difficult. The “definition” is the easiest of [the universals] to refute, and the most difficult to verify.¹⁸

The condition of the *topoi* is the same. Among them are *topoi* common to all of them [sc. universals] – they establish and refute the existence of the predicate in the subject – as well as *topoi* that are specific to each one of them [sc. universals], and *topoi* that share in common two or three of them.

¹⁸ Cf. *ibid.*, 102b29–35.

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<10><The Identical>

[109] The “identical” is spoken of in five ways. One of them is the identical in the genus, like the human and the horse: the two are generically identical. The second is the identical in the species, like our saying, “Zayd and ‘Amr are identical in that both are human.”

The third is the identical regarding accident; it is that of which one accident is predicated, like our saying, “milk and snow are identical in that both are white.”

The fourth is [the identical] to two [things] that share in one species, and in the majority of their accidents, like two waters flowing from the same source.

The fifth is the identical in number; and this [occurs] in many ways. One of them is the thing signified by two synonymous names, like the “Izār” and the “Ridā’.” That which is signified by the “Izār” and that which is signified by the “Ridā’” are identical. The second is that which is signified by the definition and the name, or the speech whose place is taken by the definition like “the human” and “the rational living [animal],” because that which is signified by the two is identical. The third is like two accidents spoken of about one thing; (164) the two of them signify the numerically identical. That is because the existence that one of them possesses is identical to that which is found in the other. The fourth is like the species and the accident, if spoken of about one thing; the thing spoken of by the species is identical to that spoken of by the accident.

Aristotle did not mention the identical in accident, and he set down that which is common to one species and in the majority of its accidents in all of what is identical in the species. According to his division, the identical occurs in three senses: the generically identical, the specifically identical, and the numerically identical.¹

[110] Each one of them [sc. identicals] opposes the others. The generically identical is opposed by that which is other in the genus; and those are the two that fall under two superior genera.

The specifically identical is opposed by that which is other in the species, and it is that which falls under differing species, whether these species rise to one superior genus, or under many superior genera. However, if they fall under many [different] superior genera, they fall

¹ Cf. Aristotle, *Topics*, 108a7–13.

under another that is opposed to the generically identical. Therefore, it is believed that the “other” in species are the many things that fall under differing species that rise to one superior genus.

(165) The “other” in accident is that thing whose accidents outnumber it.

The “other” in number [is as follows]: as for the names, it is that which is as numerous as the names that are signified by them; and as for the accidents, those whose subjects of these [accidents] are as numerous as they; and as for the definition and the name, that which is signified by one of them is not that which is signified by the other. Likewise for the species and the accident.

[111] In general, the two perfectly “other” [things] are such that they share neither in one predicate nor in one subject. That may be from the standpoint that both do not at all possess a predicate or a subject, or from the standpoint that both have two predicates and two subjects. Two things are identical if their predicates are common or if their subjects are common. As for those whose predicates are common, that predicate is not free from being either a genus, a species, or an accident. The differentia is a part of an intermediary species or intermediary genus. As for the two whose subject is common, neither is free from being either two names, two speeches, a name and a speech, two accidents, or an accident and a species. They are among the types of the numerically identical.

In general, the variable and identical are two opposed concerns that exist in that which is multiple. Multiplicity, when common in one thing – either (166) a predicate or subject – is identical from the standpoint of what is common in that one [thing], and variable from the standpoint of what is not common. If many things have nothing at all in common, neither a predicate nor a subject, then they are completely opposed to what is identical. This extent of the account regarding the identical and the variable is sufficient for the art of dialectic. As for the completely perfect account regarding them, that is found in metaphysics.

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<11><The Genera of Problems and *Topoi*>

[112.1] These are the genera of problems on which the *topoi* depend.¹ Each one of them comprises the dialectical problems and the scientific problems. That is because the predicate may be a genus of a species either in truth or in renown only, and a definition for it either in truth or in renown only. It is the same for the differentia, the accident, the property, the identical, and the variable.²

However, Aristotle arranges all of them into four genera: genus, property, definition, and accident. He set the problems down into four [genera]; that is because he arranges property and description in one name, and calls all of them “property.” He adds differentia to genus in one chapter³ [for the following reasons]: because of insignificant differences between them; most of the *topoi* that establish or refute the genus may suitably be used in differentia; and that which distinguishes differentia from the *topoi* is insignificant. Due to their small number, he did not see fit to set down the differentia in a separate chapter. He set down two kinds of accidents: “absolute” accident, and “greater than” or “less (168) than” accident.⁴ He set down problems of accident in which the more and the less is investigated as related to the absolute accident. That is because the thing is only predicated of its subject by way of the more and the less, if it is an accident. As for genus, it is not predicated of anything of its subjects – neither by more nor by less. Likewise for the definition and the property.⁵

[112.2] As for the problem regarding the investigation concerning two things that are or are not identical, he [sc. Aristotle] set down what is generically identical and generically different in the chapter on genus, since this investigation for him is undertaken in three ways.⁶ As for the *topoi* with which one verifies that this genus belongs to this subject, they are the same as those with which one verifies that it is a genus of both, and that both are under one genus or not under one genus.⁷ He added to the definition that in which is inquired the numerically one and numerically other, and he set down both chapters in one book. He placed [in the context of] the numerically one that from which one verifies or refutes in order to verify and refute what is in the definition.⁸ Though this [last] problem may suitably be [subordinated to] another end, its usefulness in

¹ See 102, above, for the beginning of this part.

² See 52–53, 81, and 102, above; cf. also Aristotle, *Topics*, 105b30–31.

³ Aristotle, *Topics*, 102a31–102b3. ⁴ See 114.3, above; cf. also Aristotle, *Topics*, 2.10.

⁵ Aristotle, *Topics*, 102b14–20. ⁶ *Ibid.*, 103a7–8 and 103b1–2.

⁷ *Ibid.*, 102a38–102b1. ⁸ Cf. *ibid.*, 6.1 and 7.2.

the definition is greater and more extensive. Therefore, he placed the verification and refutation as to [the numerically identical] under the verification and refutation of the definition. As for the identical according to accident, he does not mention it; however, it must be included in the chapter on accident because the *topoi* with which it is established or refuted that this (169) accident belongs to this subject are those with which it is established or refuted that this accident belongs to these two [subjects]. As for the one in species, he does not include it in any chapter at all, since a problem whose predicate is a species belonging to its subject is not found in dialectical problems.⁹ According to him, the genera of problems came to be four: accident, genus, property, and definition.

[113] You must know that all problems have in common whether their predicate belongs to its subject or does not belong to it.¹⁰ If it is clear about something [regarding a problem] that it [sc. the predicate] does not [belong to its subject], it is clear that it is not an accident or genus or property or definition. If it is clear that it does [belong to its subject], it is not established by that that it is an accident or genus or definition or property. Rather, it is clear only that it is one of those in an indeterminate [*ghayr al-taḥṣīl*] way. Then, genus and property and definition have in common that each one of them belongs to all of their subjects at all times. By this the accident is first distinguished because the accident may exist in some of the subject. Therefore, it is possible to refute each one of these three in two ways: by being negated completely, or by being negated partially. Accident is refuted only through its subject being completely negated; it is not refuted by a partial negation due to the fact that the accident may exist in some of the subject. Then, property and definition have in common that both are convertible in the attribution, unlike genus or accident. Therefore, (170) if it is clear about something that it is predicated of more than what is predicated of its subject, it is false that that thing is a property or definition.¹¹ The genus and the definition are similar in that both are predicated by a response to the question “what is.” If it is false that something is a predicate of its subject in response to the question “what is,” it is false that it is a genus or a definition.

[114.1] The *topoi* that establish and refute may be enumerated in a number of ways. The first is to examine what all have in common and enumerate what they are. These are the *topoi* in which, for each one [of the problems], the existence in its subject is established, without the existence proper to it being evident. After that, the *topoi* that have the genus, the

⁹ See 108, above. ¹⁰ See 38 and 102, above; see also Aristotle, *Topics*, 103b1–19.

¹¹ The Arabic here is confusing.

definition, and the property in common are investigated, and what they are is enumerated. Then the *topoi* that share the genus and the definition are taken up and enumerated. Then the *topoi* that share the property and the definition are enumerated. Then after that, the *topoi* specific to each one of the four [universals] are enumerated separately.

[114.2] Another way is to set down these problems all of which are collected as part of an investigation on behalf of the definition, since the definition is the noblest of these problems.¹² The mentioning of what shares the definition for the sake of establishing something to which the definition belongs, and its refutation, is a refutation because that predicate is a definition. The mention of that by which the definition is opposed, and the establishment [of its belonging] in the predicate, is a refutation that the predicate is a definition; and the refutation of [its belonging to] the predicate is an establishment of that which belongs to the definition. This is like the accident: it has in common with the definition [the fact] that it exists. The *topoi* that establish in the accident that it exists establish a thing that belongs in the definition. And the *topoi* by which it is made clear in the accident that it does not exist are the very same ones by which the definition is refuted. Those which establish in the predicate that it may both exist and not exist, refute that the predicate is a definition. And those which make evident in it that it may *exist* at one time and *not exist* at another establish, regarding the predicate, something that belongs in the definition. In this way all the *topoi* exist definitionally in a certain way.

[114.3] Another way is to enumerate the *topoi* by which the accident is established or refuted, what it shares with others, and what is specific to it. Enumerated next are the *topoi* that establish and refute the genus, what it shares with others and what is specific to it. Likewise, enumerating the *topoi* that establish and refute the property, what it shares with others and what is specific to it. Likewise for definition, by mentioning all the places that establish and refute it, what it shares with others and what is specific to it in itself.

[According to] this last method, these very [*topoi*] are repeated in common in many chapters. (172) The repetition of what has all three in common occurs in three chapters; and what has two of them in common [is repeated] in two chapters. And this is the only flaw in it. However, [of all the methods] it is the easiest type to understand, remember, and use; therefore, Aristotle used this last method for enumerating the *topoi*. He opined that there is no great flaw in it from the standpoint of repetition.

¹² Aristotle, *Topics*, 102b27–35 and 7.5.

However, repeating the one thing and the very same numerous things in many chapters is a training in them and a guiding hand [*irshād*] to using what is common among them for each subject, because their repetition also facilitates their remembrance and understanding. If the repetition combines these ways of facilitation, it may be difficult to deal with them. He [sc. Aristotle] set down six types of *topoi*: [1] the *topoi* regarding the problems of the accident;¹³ [2] the *topoi* regarding the problems that exist in the comparison of the more and the less;¹⁴ [3] the *topoi* regarding the genus, with which he set down the *topoi* of differentia;¹⁵ [4] the *topoi* regarding the property;¹⁶ [5] the *topoi* regarding the definition;¹⁷ [6] the *topoi* regarding the numerically identical.¹⁸ He set down the *topoi* common to all the *topoi* of the accident, then repeated them in other chapters. He set down each type of *topoi* in a treatise [sc. (*maqāla*) of the *Topics*]. He set down the *topoi* of the comparison in parts, and placed them among the preferable things;¹⁹ it is as if he set them down as examples of what is more general than they are. He opined that he would exercise by means of the preferred things because these *topoi* are used more often, and that is regarding the choice-worthy things and way of life, [because] for these they are more useful. Then, (173) in the last chapter, he considered their general use.²⁰

[115] It is necessary that we ourselves separate the general *topoi* in themselves into two types of problems: I mean the absolute [problem] and the comparative problem. Then after that we enumerate what is specific to each one of the problems separately and, with regard to each one of them, we return to the common *topoi* and repeat them in order to facilitate their remembrance, and to remind us which is appropriate for demonstration and which is specific to dialectic.

¹³ Ibid., 2. ¹⁴ Ibid., 3. ¹⁵ Ibid., 4. ¹⁶ Ibid., 5. ¹⁷ Ibid., 6. ¹⁸ Ibid., 7.

¹⁹ Ibid., 3. ²⁰ Ibid., 8.

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<12><Categories and Universals>

[116] It is necessary that we know that the predicates of the premises are generically the same as the predicates of the problems. For, the predicate of each dialectical premise is nothing other than a genus, differentia, property, definition, description, accident, or something else that is set down as a predicate in the problem. Likewise, there may be among the premises something whose predicate is a predicate of the more or of the less. Thus, from the standpoint of their predicates, the number of genera of dialectical premises is the same as the number of the genera of problems.¹

[117] The subjects of this art are all the ten genera and all of the universal meanings that are contained in them. The ten genera are: “substance,” “quantity,” “quality,” “relation,” “place,” “time,” “position,” “possession,” “action,” and “affection” [*yanfa’i*].² The genera of premises and problems are composed from all of these. The subject of each premise and problem is nothing other than either a substance, quantity, or (175) quality, or falls under another of the remaining genera. Likewise the predicate of every premise and every problem is nothing other than either a substance, quantity, quality, or is described by another from among the remaining categories. The genus is nothing other than either a substance, quantity, or something else from among the remaining categories. Likewise for the differentia, definition, and property.

[118.1] It is not evident whether it is possible that a property of a certain thing is included in the category “substance.” As for “accident,” it is more appropriate that it not be [placed in the category] “substance.” That is because it is not possible that a certain predicate that is an accident in another thing is included in the category “substance.” That is because there is nothing among the predicates that signifies something outside the essence of its subject that is included among “substance,” rather all of them signify the essence of their subjects and what that thing is. Therefore, it is only a genus of its subject, or a differentia for it or a definition or, if its subject is an individual, a species. However, the proposition whose subject is an individual is outside the art of dialectic.

¹ See 72, 102, and 112.1, above.

² See Aristotle, *Categories and de Interpretatione*, trans. J. L. Ackrill (Oxford: Clarendon Press, 1993), 1b25–2a11, and Alfarabi, *Kitāb al-Hurūf*, chs. 3 and 22 (in the forthcoming Butterworth edition).

[118.2] However, the speaker may say as we say, “is the pedestrian an animal?” and, “is the laughing person a human?” and, “is the white [thing] a body?” That is to inquire after the predicates of like (176) things – all of these are substances whose subjects are accidents – for whatever thing signifies its subjects. Do they signify what each one of them is, or things outside of their substances? If they signify what each one of their [substances] is, then it is necessary that the white [thing] is a substance. It has already been stated previously that what the derived names signify are all accidents.³ If these predicates make known from among their subjects things outside their essences – and this is the description of “accident” – it is necessary that the man and the animal be a certain accident. However, it may be an accident in relation to something else, and a substance in relation to itself. Likewise it may be thus: for the universals of substances, their nature is not separated to the extent that they are substances; rather, they only have this nature in relation to their subjects. They have two subjects: they are a substance of one of its [subjects] and an accident of its other subject. They only become a substance of one of its subjects due to the fact that it makes known its essence, and become an accident of its other subject due to the fact that it makes known what is outside its essence; because of that, it is necessary that color is also a substance in relation to whiteness and an accident in relation to genus. In any existing thing, the nature of the accident is not separated, nor the nature of the substance. Rather, each predicate itself is an accident and a substance – even individuals, if taken as a predicate, such as our saying, “the standing one is Zayd” and, “the speaking one (177) is ‘Amr.” These predicates and those similar to them are predicates that do not behave naturally,⁴ and are affected by these doubts. These are among the logical things that necessarily must be examined according to the method of dialectic.

[118.3] Likewise, if it is investigated in this way, it may not be impossible to make evident that “property” may also exist in “substance,” such as our saying, “every laughter is a human.” The human is predicated of the laughter. And in whatever manner he is predicated, does the human signify what the laughter is, or make known what is outside the essence of the laughter? If it is examined according to the method of dialectic, it is necessary that in a certain way there exist in it propositions whose predicates are accidents, which are included in the category “substance,” and propositions whose predicates are properties which are included in the category “substance.” However, there are doubts about them, and it is necessary for us in this art to pass over such [propositions] accompanied

³ Cf. Aristotle, *Topics*, 109b4–6. ⁴ Cf. Aristotle, *Prior Analytics*, 40a30ff.

by such doubts. It is not impossible to set down the problems of accident that are allowed to exist in the category “substance.” The thorough examination of the matter, and the resolution of the doubts that accompany them, [is found] in the *Book of Demonstration*.⁵

(178) [119] If that is so, from this standpoint Aristotle is correct to say that the four dialectical problems and all of the premises fall under all of the categories, and that the category, if predicated of itself, is one genus, and if predicated of something else, is an accident. So our saying, “the white [thing] is a human” is the predication of a substance according to that which is in the category “quality.” It is necessary that it is an accident.⁶

⁵ Cf. Aristotle, *Posterior Analytics*, I.4.

⁶ Cf. Aristotle, *Topics*, 103b35-38; cf. also Aristotle, *Prior Analytics*, 1.37, and Alfarabi, *Kitāb al-Khaṭāba*, 87–89.

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<13><Induction and Example>

[120] There are two types of dialectical <speeches>: syllogism and induction. It has been made clear by what has preceded what syllogism is and what induction is. Among syllogisms are the categorical, the conditional, and the one composed of the categorical and conditional, which is the syllogism of the absurd. We will make evident momentarily how the syllogism of the absurd is composed of the categorical and the conditional.¹

[121] Among the categorical syllogisms are those in which one moves from the universal to the particular, such as our saying, “every human is an animal and every animal is a body, so every human is a body.” Among them are those in which one moves from the equivalent to the equivalent, such as our saying, “every human is a laugher and every laugher is receptive to science [*qābil li-l-ʿilm*], so every human is receptive to science.” In induction, one always moves from the particulars to their universal. That is because induction is used [in dialectic] to verify a universal premise [in a syllogism];² and induction is only used in dialectic (180) more than that – and primarily – because of the syllogism, and that is because it is only used to verify the major premise in the syllogism of the first figure. If it is true, it is composed towards the minor; and the conclusion derived from it likewise. It is not at all – or only slightly – used to verify first of all the intended conclusion.

[122] Induction is not the movement from a number of similars to one similar. This method moves from similar particulars to another particular that is similar to them. It is a movement from particular to particular, and it is included among the group of examples. All of the examples are rhetorical, whether moving from many particulars to one particular, or moving from one particular to another particular.³

However, it often happens that one thoroughly examines many similars but does not complete all of them. These are among the similars whose similarity is known only by hiding [*bi-l-ḍamīr*], without there existing a name that comprehends all of them to the extent that they are similar; or they are among the similarities for which the meaning by which they are

¹ Cf. Aristotle, *Topics*, 1.10–12, and *Prior Analytics*, 2.23–27. For more on the “absurd” syllogism, see 129, below.

² Mallet notes that, in what follows to the end of the paragraph, the Arabic text is problematic.

³ Cf. Aristotle, *Topics*, 156b10–17, *Prior Analytics*, 2.24, *Rhetoric* 135b63 and 2.20, and *Posterior Analytics*, 71a10.

similar does not happen to be determined in the soul. So it is necessary, at that time, that the speaker say, “likewise for the others.”

The same is true for all those that act in this way, and which do not rise from them to a separate (181) universal premise. One believes that this type of induction is different than the first; however, the matter is not as it is believed to be. That is because one does not intend by means of this induction to verify the judgment that exists for the things that are examined in the others that are not examined; however, the intention is to verify the judgment that exists for them in a universal that comprehends them, which is that by which they are similar. For it happens that, for that universal there is no name, and it is known only by hiding. In such cases, Aristotle recommends creating a name for that universal. That is because, according to what he claims, there sometimes occurs a struggle between the dialecticians in similar cases, whether they [sc. the things] are similar or not similar. If, before that, a name is created for them and then it is used, it is likely that no struggle will arise among them.⁴

[123] As for that which Aristotle, in the *Book of Dialectic*, names “hypothetical syllogisms,” it is as we say, “if similar things exist [in this way] or the [one] similitude of the thing in a certain condition, then the thing also [exists] in this condition” and, “if one or many [things] exist under a certain meaning in a certain condition, then the others that fall under that meaning [exist] in this condition.”⁵ This is such as our saying, “if a certain planet is circular, then the other planets are round” and, “if it is evident that the moon is spherical, (182) then the sun, Venus, Mercury, and the other planets are spherical, since all of them are similar in that they are planets.” That for which many similars are used is not “induction,” and that for which one similar is used is not “example.” Rather they are conditional premises that verify the necessity of the consequence to the antecedent by means of the concession of the respondent to it. Nor do they have another way to verify it except by the concession of the respondent, and they are all dialectical.⁶ Aristotle, in the *Book of Dialectic*, calls them hypothetical syllogisms, which are included among the types of example according to subject matter. However, whatever particular example is taken, to which the conditional particle is connected and about which the respondent asks by means of dialectical interrogation, the respondent concedes it and [the speech] falls outside the example and it leads to the totality of the conditional propositions that are justified by

⁴ Cf. all Aristotle, *Topics*, 108b6ff. and 157a19–33, *Sophistical Refutations*, 174a37–39, and *Posterior Analytics*, 98a20.

⁵ Cf. all Aristotle, *Topics*, 108b12ff., and *Prior Analytics*, 40b17ff.

⁶ Cf. Aristotle, *Prior Analytics*, 50a16.

means of the concession of the respondent to them, whether the antecedent is many similars or one similar, or the consequent also is many similars or one similar. For in our saying, “if the moon is spherical, then the sun, Venus, Mercury, Jupiter, Mars, and Saturn are spherical, since all are planets,” the antecedent contains one similar, and the consequent contains many similars.

[124.1] Some people wish to use the “example” in verifying a particular matter, and need to verify the matter by which the most known resembles the most hidden, and they use the method of induction in (183) verifying the meaning by which the most known resembles the most hidden.⁷ If that meaning is verified for them, they use it as a middle term in a syllogism, and establish by that the existence of the judgment that occurs in the most hidden parts, and it becomes an argument composed of an example, induction, and syllogism. They begin, first of all, to verify the thing by the example. And the example is insufficient for what they want, and so they appeal to induction; then they move from it to the syllogism, and they use it to verify that thing. Often, one needs to proceed in this way if he begins to investigate the thing by the sensible that it resembles and that one takes as an example, and that he wants to move – through his mind – the thing that belongs to this sensible to another matter that resembles it. The movement is not verified for him, except by taking the meaning by which the matter resembles the sensible example, and by verifying [that] the existence of the judgment that he notices in the senses [belongs to] each of those meanings by which the two matters resemble each other. So the easiest method by which to verify the existence of the judgment for all those meanings is induction of the resemblances of the example, except the matter to which he intends to move the judgment. In that way the universal premise is verified for him, and that [is knowing] the existence of the rule that appears in the senses for all that is characterized by the meaning by which the matter resembles that sensible example. He thus attains [knowledge of] a universal premise, and he adds to it the existence of the matter under its subject. So he attains another premise, and one concludes from that (that is, from an argument composed of an example, induction, and a syllogism) the existence of the rule for that matter. (184) The example he uses first of all is rhetorical, and the induction to which he appeals after that is dialectical, and likewise the syllogism.

It is not blameworthy to use this method for the primary investigation of the thing. It appears that this species of investigation is common to dialectic and science together. Then, after that, he comes to perfect the

⁷ Cf. Aristotle, *Topics*, 156a5ff.

investigation and perfect the dialectical laws [*qawānīn*] in order to verify them for dialectic. Therefore, when he arrives at this rank, [the things] are examined closely by the scientific laws, so that the thing is attained by us scientifically. That is because the investigation of the similitude of the thing is one of the types of primary investigation; and the faculty for taking the similitude of the thing is one of the primary instruments with which the syllogism of the problem is deduced; just as we shall say momentarily in this very book.

[124.2] Sometimes people err: they use examples in dialectical discourse as if they were dialectical. These people are those who do not distinguish the dialectical method from the rhetorical method. Other people intend to verify the major premise by means of induction. When they perceive the defectiveness of induction – which we mentioned many times previously – they discard induction for verifying the universal premise and they use it for its refutation. They seek regarding the speech composed of example, induction, and syllogism (instead of induction alone) (185) other things with which they verify the meaning that resembles the sensible example as well as the matter about which the investigation concerns. [They verify] the universal premise by [methods] like the method of existence and increase,⁸ or the method of contrary to contrary.⁹ These people, by abandoning the use of induction, flee from the method of dialectic, and they raise what they desire to verify to another level of verification firmer than induction; through that, they sought to obtain the method of science. However, through their use of example and the place of similars, they also flee from the method of science.

Each of these are people who seek to come to science and certainty without the method of science and certainty. And this comes about only for those whose arts mix together the rhetorical, dialectical, and scientific [methods], in one of the ways that we previously mentioned.¹⁰ Therefore, when these three methods were not distinguished for them when verifying or teaching, they came to use rhetorical methods; and when refuting, they used the opposition by the similar, by the contrary [affirmed] by the contrary, by the praised supposition, and similar oppositions that we mentioned in the *Book of Rhetoric*¹¹ which have no utility either in the sciences or in dialectic.

[125] Induction may also be used in dialectic for other things. One of them is for augmenting and embellishing the speech, and the second is for making it understood. One [*al-wāḥida*] premise may be (186) divided into

⁸ Cf. *ibid.*, 114a6–12, and 57, above. ⁹ Cf. *ibid.*, 2.7, and 76.3, above.

¹⁰ See 55–70, above. ¹¹ Cf. Alfarabi, *Kitāb al-Khaṭāba*, 71–81.

many premises by means of induction and the speech then becomes numerous. Likewise, induction increases the examples of one thing, and this aids the person's understanding of the thing.¹² It may also be used for concealing that which is obtained from the respondent. That is because if the parts of the thing are accepted in place of the thing [itself], it is more probable that the respondent will grant it [sc. the universal]; if he accepts them, then he has accepted the universal.¹³ It may also be used for the confidence of the respondent, because if he affirms the parts of the universal premise, and then the acceptance of this premise is demanded, he may not evade it and not admit it, since he already accepted its parts.

These types of uses of induction are different than its use for making clear the renown of the premises or for causing their assent on the part of the listener.

[126] Something similar to induction may be used in the sciences.¹⁴ That is because a person may often be neglectful of many of the primary universal premises which must be known by every person from the outset by first science, and the person may not notice that he has them. If they are presented to him, then they are not verified to the extent that they are universal, nor to the extent that they are expressed by the expression that is heard at that time – either because he does not use them at all (since he does not devote himself until its time to any actions for which he needs to use them), or because (187) he has already used them in matters whose parts he has already been devoted to [while] he has not used them to the extent that they are universal. If he is informed [of them] by means of an expression that signifies them to the extent that they are universal, he does not assent to them because he does not comprehend the meaning of that which is spoken about. He examines the parts that are already known in order to understand by means of them the meaning of the utterance that is spoken about. Whenever he understands it [by means of its parts], at that precise moment certainty is arrived at regarding it. The certainty that he attains is not attained by induction but by his understanding of the utterance's meaning, and because he forms in his soul an image of a universal meaning that was already in his soul and not separated from its parts. As soon as he separates [its particulars] he is certain that what is predicated of that meaning is predicated of all that is described by it. In such a way does Aristotle use it at the beginning of his book on demonstration [sc. *Posterior Analytics*] by his saying, “all deliberative [*fikrī*]

¹² See Aristotle, *Topics*, 157a1–17, and 55, above; cf. also Aristotle, *Topics*, 157a34–157b34, and Aristotle, *Prior Analytics*, I.31.

¹³ Cf. Aristotle, *Topics*, 105b10–12 and 158a2.

¹⁴ Cf. *ibid.*, *Topics*, 160a37–39, and 26, above.

instruction and learning is only via an understanding [*ʿilm*] that precedes it.”¹⁵ He examines after that the sciences and arts so that the listener, if he understands the meaning of what is told him about the examples, arrives at certainty by means of the universality of the premise. This examination is either not called induction at all, or is called scientific induction.

[127] It appears that the condition regarding induction is like the condition regarding examples. Just as among examples there are rhetorical and scientific ones – the rhetorical to cause assent and to persuade and the scientific examples to make understood the universal meaning, to establish it in the soul, and to form it for him so that the mind (188) relies on the intelligible matter about [something] that exists – likewise there may be a dialectical and scientific induction. The dialectical [induction] is used to verify the premise and to make clear its notoriety or truth, and the scientific [induction] is only used in order to make understood the meaning of the universal premise, neither to verify it, cause its assent, nor to make clear its truth. If its assent and the certainty about it occurs after induction, that does not occur by means of induction first of all, but by the dispersed form of the universal meaning that lies in the soul. If this is related to induction, it must only be set down secondarily and not primarily, and by the mediation of the understanding of the meaning of the universal.

¹⁵ Aristotle, *Posterior Analytics*, 71a1–11.

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<14><The Conditional and Absurd Syllogism>

[128.1] Among conditional syllogisms¹ there are those that are conjunctive and those that are disjunctive. Among the conjunctive [syllogisms] are those where the conjunction belongs to the consequent of the antecedent by nature and necessarily, as well as what arises at a certain time by chance and institution or convention.² Likewise the disjunction of the consequent of the antecedent may occur by nature and necessarily, or at a certain time by chance and institution or convention. Our saying, “if the sun rises, the day comes to be” is a conjunctive conditional and the conjunction of the consequent to the antecedent occurs by nature and always. And our saying, “this number is either even or odd” is a disjunctive [conditional syllogism] and its disjunction is by nature and always. As for our saying, “if Zayd arrives, ‘Amr departs” is conjoined by chance, and our saying, “if it rains today the road will become muddy” is a conjunction and by nature and yet it arises at a certain time. Likewise our saying, “either Zayd or ‘Amr arrives” is a disjunction that occurs by chance and it is by institution, not by nature.

(190) [128.2] The conjunctive and disjunctive speeches that are not by nature and are not necessary, but occur by chance or come to be at a certain time or are set down as conjunctive or disjunctive by convention, are characteristic of hypothetical [*wadʿiyya*] speeches. The syllogisms that arise from them are called hypothetical syllogisms. Nevertheless, all conditional syllogisms are also called hypothetical syllogisms; however, among the conditional [syllogisms], these are those to which the name “hypothetical” properly belongs. For this name is spoken of with regard to them in a specific and general way. Those [syllogisms] that are properly hypothetical syllogisms are only truly and appropriately used in dialectic when one obtains from the respondent his acceptance of them. When the respondent’s acceptance of them is not gained, it is not appropriate to use them.

[128.3] As for the conjunctive conditional [syllogism], it may happen that the consequent does not describe that which necessarily follows the antecedent but that which resembles the antecedent. In this way the better known of the two similars may be used in dialectic as a proof of the more hidden of the two, for similars may only be used in dialectic according to the conditional method, not according to the categorical [*al-ḥamlī*] method. That is because its use according to the method of

¹ See 123, above. ² Cf. Aristotle, *Posterior Analytics*, 72a12ff.

categorical composition is rhetorical, not dialectical. For example: “if the [organ of] hearing only perceives the object heard via the object heard coming to arrive at the [organ of] hearing, not by anything moving to it [sc. the object heard] from the [organ of] hearing, (191) the [organ of] sight only perceives the thing seen by the thing seen coming to the [organ of] sight, not by anything from the [organ of] sight coming to it.” Likewise, if one ascends from one part or a few parts to a universal by the categorical method, it is rhetorical, and if by the conditional method, it is dialectical. Such as our saying, “if the soul of the person is immortal, then all souls are immortal” and, “if a certain planet is spherical, the other planets are spherical.” Especially in [syllogisms] like these, one should obtain the admission of the respondent, and then it follows according to what we said.

[128.4] Sometimes the conjunctive conditional [syllogism] is such that the conjunction found in it is evident in itself, and sometimes it is not evident in itself and it is necessary to make clear the truth of the conjunction that is found in it. In the conjunctive conditional [syllogism] the heart of the matter is the truth of the conjunction and the truth of what is excluded. A conditional speech does not at all imply the truth of each one of the antecedents and consequents; rather, it may happen that not one of them is true. Rather, the conditional speech only implies the truth of the conjunction. Even if neither the antecedent nor the consequent is true, this does not prevent the speech from being conditional. The proof of that is that the matter in the consequent and antecedent rests on [the meta-*leptic* premise]. One may assert the opposite of the consequent as if it is the truth, and conclude the opposite of the antecedent. If they are (192) both true as established, it is not possible to subtract the opposite of the consequent as if it were true, and conclude the contrary of the antecedent, since the two contraries are not able to be true together. Rather, it is only determined that the antecedent and consequent are such according to their two qualities by institution, not that they are at all both true in themselves.

Therefore, each conditional syllogism is called a hypothetical syllogism [*qiyās al-waḍ'*], since each part of the conditional (that is, the antecedent and the consequent) is posited as hypothetical without one of them being true for the one who posits it. Then, one examines the matter concerning [the meta-*leptic* premise].³ Therefore, it is necessary to make evident the truth of [the meta-*leptic* premise] first of all and then to assert it, or to set it down as if it were a certain sort of institution. Thus, he either concludes,

³ For Aristotle on meta-*leptis*, cf. Aristotle, *Topics*, 112a22, and Aristotle, *Metaphysics*, 1072b20.

and the one who speaks begins to verify [the metaleptic premise]; or he posits it [sc. the metaleptic premise] and begins to verify it before concluding. If it is true, he concludes after that. The one who speaks chooses whichever of the two [methods] he prefers.

[129.1] As for the absurd syllogism [*qiyās al-khulf*],⁴ it is composed of three syllogisms: a categorical-apparent [kind] that was already explained; categorical-hidden; conditional-hidden. As for the categorical-hidden, it is like our saying, “for any thing, either the affirmative or the negative is true about it” or our saying, “if the negative is not true, then the affirmative contrary to that is true” or, “if the affirmative is not true (193) then the negative contrary to that is true, for every affirmative – or negative – that is false, the contrary to it is true.”⁵ Then one begins to make clear the false premise by removing the doubt in it. Then one adds to it a true premise about whose truth there is no doubt. If an absurdity [*muḥāl*]⁶ arises from it, that syllogism becomes a syllogism from which absurdity necessarily comes: everything from which the absurdity comes is necessarily absurd. There is, then, absurdity in the syllogism, and that from which the absurdity comes cannot exist in the true [part] of two premises. Therefore, the false one is the one in which doubt emerges. Our saying, “everything from which the absurdity comes is absurd, and that in which there is doubt is that from which the absurdity comes” is another syllogism that is hidden whose faculty is used.

The syllogism among the three that is announced is that about which there is doubt and to which is added the true premise. The two other syllogisms are hidden, and one may only use their faculties. They are hidden only because the major premises in them are identical in every absurd syllogism. Only the syllogism from which the absurd comes is changed, and one declares only regarding that which always changes in each problem. It is not necessary to declare that which remains identical and which does not change in relation to the changing of the problems, but only that its faculty be used.

(194) [129.2] The scientific absurd syllogism [*qiyās al-khulf al-ʿilmī*] is that which leads to the absurd [*al-muḥāl*], and the dialectical absurd syllogism is that which leads to the ignominious because the ignominious in dialectic occupies the place of the absurd in the sciences. The absurd is the necessarily false, or the falsehood that is always false and which is not able to change and become true;⁷ it is the opposite of the truth that is

⁴ See 50.5, above, and Aristotle, *Prior Analytics*, 41a20–41b5.

⁵ Cf. Aristotle, *On Interpretation*, 9, and Aristotle, *Metaphysics*, 996b26–30, 1005b19–23, and 1011b23–24.

⁶ Cf. Aristotle, *Physics*, 185a30. ⁷ Cf. Aristotle, *Posterior Analytics*, 2.4.

always true. The ignominious is the opinion rejected by the many or the opinion whose rejection is generally accepted, and it is opposite to the opinion whose preference is generally accepted. That whose preference is generally accepted is not such because it is true and in accordance with what exists. Likewise, the ignominious is not rejected because it is false and not in accordance with what exists, but rather only because the people opine that it is better to reject it, whether it is true or false, just as that whose preference is generally accepted is preferred because the people opine that it is better to prefer it, whether it is true or false. Since the ignominious opinion, as we already said,⁸ may be attached to some whose skill in the sciences is well known, it is possible – if something ignominious is concluded from an absurd syllogism – that it is not renounced by the respondent and that he sets out to offer a syllogism for it. Therefore, the power of the absurd syllogism in the dialectical art is weak as long as the ignominious is not very evident, or [as long as] the power of the ignominious [does not] arrive at the point such that one may not find a dialectical syllogism that strengthens it, or one does not at all find an eminent opinion attached to it.

⁸ See 88, above.

(195)

<15><Opposition and Criticism>

[130] The dialectical syllogism is used either in criticism or opposition. Criticism is the activity of the questioner and opposition the activity of the respondent. Criticism is the syllogism by which the questioner desires to refute the thesis of the respondent. Opposition is the syllogism with which the respondent seeks to refute the syllogism the questioner brings forth to refute the thesis of the respondent.¹

[131] The syllogism is refuted either by the refutation of its figure or by the refutation of its premises, or both together. The only premises which the respondent always intends to oppose are the major [premises]. The major [premise] is always universal in the first figure. In the other figures, its faculty is universal.² The universal premise is refuted either by the conclusion of its contrary or by the conclusion of its opposite, and that is either to be refuted universally or particularly.³

If the universal premise is affirmative and we intend its opposition by means of a categorical syllogism, its particular refutation is by means of a syllogism in the third figure, and its universal refutation is by means of a syllogism (196) in the second figure. If it is a universal negative, then its particular refutation is by means of a syllogism in the third figure that is affirmative, and its universal refutation is only by means of the first type of the first figure.

However, the particular refutation may occur in all figures. The particular refutation, when it is a universal affirmative refutation, only occurs by a particular negation, and the particular negation is concluded in all the figures: in the first figure by one type, and in the second figure by two types, and in the third figure by three types. When one seeks to refute a negative universal by a particular affirmative, that occurs in the first figure and in the third: in the first by one type, and in the third by three types. And when the refutation of a particular affirmative is sought, it occurs in the first figure by one type and in the second by two types, since it is only always refuted by the conclusion of the universal negative. And if it is a particular negative, it occurs by the first type of the first figure.

[132] One may oppose the universal premise by means of a conjunctive conditional syllogism by taking it as an antecedent and making it follow the consequent, then subtracting the opposite of the consequent so that

¹ Cf. Aristotle, *Topics*, passim; cf. also Aristotle, *Prior Analytics*, 66b10, and Aristotle, *Rhetoric*, 2.25.

² Cf. Aristotle, *Posterior Analytics*, 77b34.

³ Cf. Aristotle, *Categories*, 10 and 11; Aristotle, *On Interpretation*, 6 and 7.

the universal premise is eliminated. [It may also be opposed] by means of a disjunctive conditional syllogism by taking it as an antecedent and making it follow the consequent, then subtracting the consequent so that the antecedent is eliminated and the universal premise is refuted.

(197) [133] Opposition and criticism are also possible by means of an absurd syllogism by adding the premise whose refutation is sought to another one whose truth is apparent or well known, and to conclude from that what is evidently false or ignominious. The universal premise is then eliminated. These are the kinds of dialectical oppositions.

[134] It is necessary that the opposition by similitude be avoided in dialectic and sophistry.

[135] It is necessary to know that the opposition of the universal premise by means of its opposite is *either* in demonstrations and in the sciences (where it is true and as powerful as possible) *or* in dialectic, where it is not impossible that they [sc. two contrary universals] are both false and both ignominious. This is because it is not required in dialectic that the matter of the premises is only necessary and, for the ignominious [premises], that they are impossible. Rather, the subjects of dialectical [premises] may be of possible matters, and for these the contraries may both be false. Likewise, it is not impossible that they are both ignominious, such as our saying, “everything moves itself” and, “no existing thing moves itself,”⁴ both of which **(198)** are contrary, false, and ignominious. Therefore, the most virtuous and most effective thing in dialectic is that the refutation occurs by means of contradiction, since the refutation by means of contradiction is more true, more firm, and more general than the refutation by the contrary.

⁴ Cf. Aristotle, *Topics*, 160b8–9.