REMARKS AND ADMONITIONS
PART ONE: LOGIC

Translated from the original Arabic
with an Introduction and Notes

by

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ACKNOWLEDGMENT

Publication of this book was assisted by a grant from the National Endowment for the Humanities.

To the memory of my brother,
Doctor Yakub Inati,
who guided me from childhood, both intellectually and emotionally.
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Acknowledgments

I would like to express my appreciation to Professor George Hourani, Department of Philosophy, SUNY at Buffalo, and to Professor Michael Marmura, Department of Middle East and Islamic Studies, University of Toronto, for their insightful and constructive comments. I would also like to acknowledge the State University of New York at Buffalo for providing necessary facilities, and a stimulating and friendly atmosphere.

I would like to extend my special gratitude to my family and friends for their emotional support and encouragement throughout this project. I also wish to thank my assistant, James Mack, for being highly responsible and patient, and for his care in typing and proofreading the manuscript.

The preparation of this volume was made possible in part by a grant from the Translations Program of the National Endowment for the Humanities.

S. C. I.
Abbreviations

Anal. Post. Aristotle, Analytica Posteriora
Anal. Pr. Aristotle, Analytica Priora
Sh. Com. al-Farābī, Short Commentary on Aristotle’s Prior Analy-
tics, trans. Rescher.
De Int. Aristotle, De Interpretatione
Ish. Ibn Sinā, al-Iṣḥārāt wat-Tanbihāt
Goichon.
Man. Ibn Sinā, Muktiq al-Masḥriqyyin
Meta. Aristotle, Metaphysica
Naj. Ibn Sinā, an-Najāf
Shehaby.
Qas. Muz. Ibn Sinā, al-Qaṣīda al-Muzāwija
Sh. Mad. Ibn Sinā, as-Shīfāʾ, al-Manṭiq, al-Madkhal, ed. Mad-
kour et al.

Note: All references to the text of al-Iṣḥārāt wat-Tanbihāt are to the pages of
Dunyā’s edition, as found in the margin of this translation.

Introduction

1. A GENERAL WORD

This book on logic is the first of a four-part work, al-Iṣḥārāt wat-
Tanbihāt (Remarks and Admonitions) by Ibn Sinā.¹ The other three
parts² are, in order, Physics, Metaphysics and Sufism. Why the work
begins with logic will become clear in our analysis of the text.

The exact date for Ibn Sinā’s writing of al-Iṣḥārāt wat-Tanbihāt is
not known. However, it is known to be a late work. It can, therefore,
be taken to represent the author’s mature ideas and firm convictions.

The work consists mainly of brief presentations of Ibn Sinā’s
views, as well as attacks on some of his predecessors and contempo-
raries. The sections including the former are titled “Remarks;” and
the sections including the latter are on the whole titled “Admoni-
tions;”³ thus, the whole work came to be called Remarks and
Admonitions.

The reasons that have led us to embark on translating and
annotating this work are first that it will open for the English reader,
who does not command the language of the original text, the
opportunity to examine for himself, among other things, the views
which were the subject of great controversies in medieval Islam – not
as they were presented in books of philosophers with diverging views
that have already been translated into English, such as al-Ghazali’s

¹ Our translation of this text is based on Sulayman Dunyā’s second edition (Cairo:
Dar al-Ma’ruf 2 Mar, 1971). But this edition was often compared to that of Jacques
Forget (Leiden, 1892) and with that of Nahī Shehābi (Tehran, 1960).
² Ibn Sinā, known to the West as Avicenna, lived from 980-1037 A.D. For further
information on his life, see William E. Godman, The Life of Ibn Sīnā (Albany: SUNY
Press, 1974).
³ A translation of these parts is now being prepared.
⁴ In some places these sections are also called “Delusions,” or “Delusions and
Admonitions.” It must also be mentioned that some sections of this work are given
different titles, such as “A Follow-Up;”, but these sections are few in number.
The Incoherence of Philosophers and Ibn Rushd’s The Incoherence of Incoherence, but as they were presented by their own author.

Second, a translation of this work makes available to the reader the most concise and comprehensive account on Ibn Sina’s late philosophical system. This will be useful not only for familiarizing the reader with Ibn Sina’s ideas, but will also shed some light on the views of those who influenced him, such as Aristotle and the Stoics, and those who were influenced by him, such as St. Thomas Aquinas.

It must be mentioned that this is the first translation of this work into English, and the first translation of a whole philosophical work of Ibn Sina from Arabic into English. There is a French translation by A. M. Goichon under the title Livre des directives et remarques. However even though this French translation was an important step toward understanding al-Ishārāt wa-Tanbīhāt, it, nevertheless, distorts its contents at many points (compare, for example, that work with our translation of the First Method, Chapter 7 and the Third Method, Chapter 8). An example of the most misleading translation is that of the following passage: “thus repeating [part] of it yields only the contradictory of the rest.” Here is Goichon’s rendering of the passage: “…[cel est le cas] lorsque le choix de l’œil est le seul à aimer une conclusion, et celle-ci est le contraire du conséquent, uniquement.”

Third, in this translation there is also a benefit for the Arabic-speaking reader whether a layman or a scholar. As we will see, the Arabic text is written in a highly difficult style. Its statements are concise and many of its sentences are elliptical. Much clarification and much explanation is needed before the reader can grasp its ideas. We hope that our translation is careful and clear enough that together with the introduction and notes it will aid the reader in assimilating the text.

Our fourth main reason for undertaking this work was that the task appeared as a great personal challenge. The work is a collection of notes about a large number of principles, many of which are difficult to understand. Little elaboration or explanation is given. The work is also difficult in other respects: as mentioned, many of its sentences are incomplete; some sentences are interrupted by parts of earlier or later sentences; and the punctuation is, on the whole, inappropriate. All of this has left the work much like a collection of riddles to which we, wondering whether we were up to the task, applied every available method to solve.

Whether or not all these difficulties were intended by the author is not clear; after all, Ibn Sinā is not known for a clear and elegant style. What is clear though is that the work was intended to be highly difficult in order to prevent its accessibility to the majority of readers. The closing section of the fourth part indicates this. Addressing his select reader, Ibn Sinā says: “Protect this truth from the ignorant, the vulgar, those who are not endowed with the sharpness of mind, the skill and habit, those who lend an ear to the crowds, those who have gone astray from philosophy and have fallen behind.” And according to Ibn Sinā, such is the majority of people. Ibn Sinā did not wish any except the elite to be able to have access to the contents of al-Ishārāt wa-Tanbīhāt — the elite being those endowed with high intelligence, goodness of heart, honesty of mind and love for philosophy and appreciation of its value. In other words, the elite are those that Ibn Sinā classifies in Manṭiq al-Maṣḥūqiyyīn as “ourselves and those who are like ourselves.” Ibn Sinā is confident that intelligent readers are capable of grasping the hidden truths of the work, as well as supplying the relevant details:

For you, who are anxious to determine the truth. I have prepared in these Remarks and Admonitions principles and generalities of wisdom. If you are directed by intelligence, it would be easy for you to subdivide them and work out the specific details. But why should Ibn Sinā deprive those readers who are as unlucky as not to be of the elite from having access to this work? Why not present its ideas in such a form as to make them readily understood by such readers? It is because, according to him, there is no way to

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3 Goichon, Dir. Rem., p. 220. For the Arabic text, see Eight Method, note 9.
make such readers understand such profound truths. If you were to try to make them understand them, you would be trying in vain since such readers lack the proper instrument for grasping these truths.

And since they cannot grasp them, they will end up misunderstanding and distorting them. The best thing then is to hide these truths from such readers. Ibn Sinâ goes as far as to plead with the elite not to try to communicate the ideas of *al-Ishârât wa-Tambîhât* to the commoners. But only to those who are pure of heart, with good conduct and willing to consider the hasty doubts that they may have, and even to those, the truths must be communicated gradually, with apprehension and with a request that they do the same in protecting these truths.11

The best method for dealing with the difficulties that arose in the course of the work proved to be a constant checking of Ibn Sinâ’s views in his other writings. The following works of Ibn Sinâ were most helpful in understanding this first part: *ashi-Shiftâ, al-Manâqî, al-Madkhal* (Healing, Logic, Isagoge),12 *ashi-Shiftâ, al-Manâqî, al-Qawûs* (Healing, Logic, On the Syllogism),13 *ashi-Shiftâ, al-Manâqî, al-Burhân* (Healing, Logic, On Demonstration),14 *an-Najâr, al-Manâqî* (Deliverance, Logic),15 *Manâqî al-Mâshârîqîn* (Logic of Orientals). Also the following works were occasionally consulted: *ʿU泰山, Commentary,* and Zabeeb. *Avicenna’s Treatise on Logic.*16

11 Ish., Part IV, pp. 904-906.
16 *Nağî ad-Dîn al-Ṭusî, Commentary,* published with *Ish.*, in the same edition of *Ish.* that we are using. This is not a commentary on *Ish.* only, but also a commentary on *Fakhr ad-Dîn an-ʿArâbî’s commentary on Ish.* *Lubh ad-Ishârât.* In *Fakhr ad-Ishârât,* ar-ʿArâbî not only elaborates Ibn Sinâ’s views, but also attempts a refutation of a number of them. It is for this reason that his commentary was dubbed “pejorative” (yârhum) by ʿU泰山, Commentary, p. 112). ar-Ṭusî’s commentary, on *Ish.* on the other hand, is a sympathetic interpretation.

II. ANALYSIS OF THE TEXT

Our purpose now is to give a clear outline of the major ideas in the first part of *al-Ishârât wa-Tambîhât.* No defense or refutation of any of these ideas will be given. Neither time nor space permits that. So let us attempt a brief exposition of Ibn Sinâ’s views in the simplest language possible. For this purpose we will draw upon much material from his other works, in order to understand and pull together his logical system.

We wish to mention that, even though we feel that most of the difficulties of the work have been delineated, there remain some for which we have not found solutions — these are specifically some of the sources referred to by Ibn Sinâ.

1. CONCEPTION AND ABSERV

Ibn Sinâ emphasizes that knowledge is of two types: *taṣawwûr* (conception, picturing, form-grasping, imaging) and *taṣdîq* (declarative phrase).18 i.e. true or false: a relation in the mind, of correspondence between the concept and the thing for which the concept stands,19 i.e. truth,20 assert that the relation of correspondence between the concept and the nature it represents is true21 — it is in this last sense that we will be using the term as Ibn Sinâ seems to be doing (for the most part).

Conception is the grasping of an object without any kind of judgment — it is this grasped object which we call “concept.” Concepts are either simple, single or composite. A simple concept is

18 *al-Qâhid ad-Muzdawîjâ in Man., p. 17.
19 *Ib., p. 17.
20 This statement in *Sh. Med.* is misleading. It is clear in *Man.* (p. 60) that this relation of correspondence is called *kładîjâ (true), while taṣdîq is said to be the belief that this relation is true (ibid.).
21 *Ibid.* This is to be distinguished from falsification, rejection or denial of the correspondence of such a relation (*kašîhâ). Every assert is an acceptance and an assertion; but what it accepts could be an affirmation or a negation. “I accept that A is B,” or “I accept that A is not B” are both asserts. Further, according to Ibn Sinâ, asserts can be either true or false (this will become clear later on in this introduction to our discussion of propositions involving assert). But this, of course, raises the question as to whether assert is worthy of being called a form of knowledge, as our philosopher thinks.
one in which there are no parts, such as the concept "God" – "God", according to Ibn Sīnā, is a concept that represents a simple nature. A single concept is one which may or may not have parts, but were it to have parts, these parts could not stand alone as long as they are parts of this concept. A simple concept is a single concept, but the converse is not true. Examples of a single concept are: "human being," "triangle" and "angel." Finally, a composite concept is one in which there is at least one single concept as a part of it. This is exemplified by the concept "mortal rational animal," "shall we walk?" 21 and "do this." 22 It must be mentioned that the above examples of the various types of concepts are given by Ibn Sīnā as examples of objects of conception, without specification as to which of them exemplify which kind of concepts. The specification is ours. Since the classification of concepts we have just given is that of Ibn Sīnā (though never made clear in al-Ishārat wa-Tanhibāt), 23 we thought it would be more helpful to divide the examples in accordance with the division of concepts, rather than lump them under "objects of conception."

Assent is the grasping of an object, but it differs from conception in that it is always accompanied by a judgment (of the type specified above). Assent presupposes conception. The reason is that if someone says, "Every white is an accident," you either believe this or you do not. But whether you believe it or whether you doubt it, you must first be able to conceive and understand what is meant by it. But while every assent presupposes conception, the converse is not true. 23 For you can conceive and understand something without making any judgment about it.

2. FUNCTION AND USE OF LOGIC

Objects of conception divide into two kinds: (1) that which is known and (2) that which is unknown. 24 The same is true of the objects of assent. We have (1) that which is known and (2) that which is unknown. The objects known by conception and those known by assent are, of course, not objects of inquiry; while those not so known are. But what is known and what is unknown is relative to the mind of a certain individual. However, some objects of conception are known to every normal mind. These are the self-evident concepts: the objects that present themselves to the mind immediately. "Being," "thing" and "necessary" are, according to Ibn Sīnā, examples of such concepts. 27 Leaving these very few immediate objects of conception aside, the rest of the objects of conception divide, with respect to the mind of an individual, into what has been already acquired (known by mediation: either of self-evident concepts or others that have been already acquired), and what has not yet been acquired (the unknown object of conception). Which objects have already been acquired by the mind and which have not, is, of course, a relative matter. Thus when Ibn Sīnā gives us "human being" or "triangle" as examples of known concepts, the question is "known to whom?" It seems Ibn Sīnā is saying that such objects are acquired by the normal adult human being. Objects such as "binomial" or "disconnected" are, on the other hand, not acquired by such a person, but require consideration and inquiry.

Also some objects of assent are known by the human mind immediately, without the mediation of other assents, such as "two is the half of four" or "the whole is greater than the part." Other objects of assent are acquired, such as "the world is a composite." And finally, to some minds, there are objects that are not yet grasped by assent, such as that the square on the diagonal is equal to the squares of the sides of the right angle which it subtends.

According to Ibn Sīnā, a human being should acquire as much knowledge as possible. For it is by knowledge and knowledge alone.

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21 *Man...*, p. 9.
22 *Sh. Mad...*, p. 17.
23 Except perhaps in an indirect manner: through an analysis of expressions which are said first, to correspond to concepts; and second, to divide into simple expressions, single expressions and composite or compound expressions.
24 *Sh. Mad...*, p. 17.
25 If the object of conception is one which is already grasped by the mind, i.e.,
that human happiness can be achieved. Two forms of knowledge are required for this: practical knowledge and theoretical knowledge. The former is knowledge of what must be done for the perfection of society, the family and the individual. Practical knowledge prepares the way for theoretical knowledge by means of which the metaphysical perfection of the individual is completed. The metaphorical perfection of the individual is completed by knowledge of the essences, natures, realities or quiddities of things, which are the eternal elements of this universe. How one can grasp these essences will become clear later on. Meanwhile, it must be said that knowledge of essences serves to perfect an individual by making him mirror the eternal aspect of the universe, and hence achieve eternity for himself—eternity being identified with happiness.

For the purpose of increasing our happiness we must, therefore, reduce the amount of unknown objects of conception and unknown objects of assent. To do this, there is only one way: to get from a known object of conception to an unknown one and from a known object of assent to an unknown one. The means of getting from a known object of conception to an unknown one is called "explanatory phrase." And the means of getting from a known object of assent to an unknown one is called "proof." Thus if you do not know what "human being" is, the way to acquire knowledge of it is through a phrase that explains to you what it is, such as "human being is a rational animal." But the simple elements of which this phrase consists, i.e., "rational" and "animal" must be known concepts. If, for example, you do not know what "rational" is, you could not know what "human being" is. That is why, in an unknown object of conception, we must first start from known concepts that are put together in a phrase that explains the unknown object of conception. The same is true of assents. One has to start with known assents which, then, are put together in order to lead to knowledge of an unknown object of assent.

But of explanatory phrases and proofs there are those that are valid (real) and which lead to the certain knowledge sought, and those that are invalid (unreal), but resemble the valid, or appear to resemble the valid, and which lead to falsehoods.

Logic is a set of rules that help one distinguish the valid from the invalid explanatory phrase and proof; and thus it is said to be an instrument for the various branches of knowledge. In short, the function of logic is to help us move from the known to the unknown; and hence help us increase the degree of our knowledge, which in turn elevates the degree of our happiness, the best goal that we can hope to achieve. It is in helping us achieve this goal that the benefit of logic lies.

Ibn Sīnā draws an analogy between logic as a set of rules for scientific thought on the one hand, and grammar and meter as sets of rules for discourse and poetry respectively. But he also sees an important difference: a good, natural mind (al-firaq) and a good taste, he tells us, could replace respectively the acquisition of grammar and meter, but no natural mind can function in place of logic except if one is guided by God. If the natural mind were sufficient for differentiating the real from the unreal explanatory phrases and proofs, there would not have been any disagreement among thinkers, nor could one have contradicted oneself.

After pointing out the purpose of logic, Ibn Sīnā devotes the rest of this first part to a study of the two methods by means of which logic achieves its purpose, i.e., the explanatory phrase and the proof.

3. Logic as a Branch of Philosophy or Only as a Tool of It

Before we move on to a study of the explanatory phrase and the proof, a word must be said about Ibn Sīnā's position regarding the question as to whether logic is a part of philosophy or only its tool, a
question which had preoccupied the ancient philosophical schools and was still the center of hot debates in Ibn Sinâ's time. The Platonists, for example, considered logic both as a branch of philosophy and as a tool of it. The Peripatetics held that logic is only a tool of philosophy. And the Stoics considered logic a part of philosophy.

Ibn Sinâ does not address this issue in al-Ishrâd tat-Tanbîhât, but he does in al-Masâmâl. However, since in al-Ishrâd tat-Tanbîhât logic is at some point spoken of as a tool 24 and at another point as a science (philosophy or knowledge) 25 we thought it fit to interject at this point Ibn Sinâ's view on this matter, which will help the reader understand Ibn Sinâ's comfort with speaking of logic both as a tool and as a science.

In preparation for responding to this issue, Ibn Sinâ tells us that essences or natures of things either exist externally, or exist in the mind, or are free from either mode of existence. Accidents and states attach to the natures as they exist either externally or in the mind. The mental accidents and states are exemplified in being subject or predicate, universality or particularity of predication, essentiality or accidentality of predication. 26 Logic treats of nothing except the natures inasmuch as accidents and states attach to them in the mind; and has nothing to do with the natures as they exist either externally, mentally, or as they are free from both modes of existence. 27 This is so because logic is a movement from the known to the unknown, and as such, for one thing, it cannot be concerned with anything outside the mind, since what is known or unknown is such only in relation to a mind; 28 and for another, this movement cannot be carried out except by means of the mental states, as will be seen later.

If philosophy is limited to a study of the natures as they exist both externally and mentally, then logic is not a part of philosophy, but inasmuch as it is helpful for this study, it is a tool of philosophy. If, on the other hand, philosophy encompasses every theoretical study, then logic is a part of philosophy and a tool of its other parts. 29

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26 *Sh. Mad.*; pp. 15, 22.

According to Ibn Sinâ, this whole issue proves to be spurious. After all, there is no contradiction between the two views; for in each "philosophy" is taken in a sense different from that taken in the other. Let everyone specify the sense in which one is using "philosophy" and the whole issue will disappear. Besides, concerning oneself with such questions is a futile effort and results in no benefit. 40

4. Preliminary Notes

Both the explanatory phrase and the proof are composed of concepts (which are their matter). And the composition takes a certain form by means of which the concepts are arranged. Ibn Sinâ draws an analogy between the concepts and the composition of the explanatory phrase and the proof, on the one hand, and the matter of a house or a chair and the form of that house or that chair. As we cannot build a house or a chair from just any matter, and in just any form, so also we cannot have an explanatory phrase or a proof from just any concepts, put together in just any manner. 41

For understanding the explanatory phrase and the proof, it is not important that we understand the concepts in themselves, but only inasmuch as they can be employed as the matter of the explanatory phrase and the proof, inasmuch as they have certain states and relations to each other. When a builder considers wood as the material out of which he wishes to build a house, he does not consider the nature of wood in itself—that is, inasmuch as it has a plant soul, or inasmuch as it is hot or cold by nature, etc.—but only inasmuch as it has certain states due to which it can be used in building the house, such as the fact that it is hard or soft. 42 The same is true of a logician. As has been already mentioned, he must not concern himself with the natures of things as they exist, either externally or in the mind, nor with the natures of things in themselves, i.e., as separate from any mode of existence. Rather, his concern must be these natures inasmuch as they are subjects or predicates, universal or particular, essential or accidental, etc.; in other words, inasmuch as any accident attaches to them as they exist in the mind. It is, therefore, these concepts, taken under the above-mentioned aspect, that are the subject of logic.

41 *Nal.*; pp. 3-4.
42 *Sh. Mad.* p. 22.
But concepts which represent in the imagination or the intellect the natures of things are, in turn, represented by language. As it is impossible to understand the natures of things apart from the concepts that correspond to them, so also is it impossible to understand concepts apart from the expressions that stand for them. Thus even though the ultimate goal of a human being is the understanding of the natures of things, and the ultimate goal of the logician is the understanding of concepts, taken under the previously-mentioned aspect, the former must make it his purpose to precede his goal by the study of concepts; and the latter must make it his purpose to precede his goal by the study of expressions.

We are reminded, though, that the subject of logic is not language, but that a study of language is necessitated by the need for discourse and dialogue. Therefore, while concepts cannot present themselves to the mind apart from a linguistic embodiment, because reason cannot arrange the concepts except through imagining their expressions, and because discourse and dialogue are impossible without expressions, it is necessary that the logician be concerned with expressions, and not because expressions in themselves are his primary aim of investigation. If it were possible, we are told, to grasp the concepts free from their expressions, this would be sufficient for the study of logic; and if it were possible for the logician to replace the use of expressions in dialogue by another means, this, too, must be done. But neither of these is possible.

But Ibn Sina is convinced that a study of expressions is nothing but a study of the concepts for which the expressions stand. Due to this conviction on his part, it is often difficult to distinguish his use of "expressions" from his use of "concepts." This is made clear, for example, in his discussion of definition, which is a certain form of expression. There he says that a definition includes the essential parts of the concept of the essence; while he should have said that it includes parts that signify the essential parts of the concept of the essence.

Ibn Sina's procedure, therefore, is to start with a discussion of simple elements, i.e., single expressions, followed by a discussion of valid and invalid forms of the explanatory phrase. The first two methods are devoted exclusively to this. From the Third to the Sixth Method, the way is prepared for a discussion of proof by focusing on propositions, the parts of the proof. The Seventh, Eighth, Ninth and Tenth Methods center on the valid and invalid forms of the proof. Let us, therefore, follow his steps and begin by discussing single expressions.

5. Single Expressions

a. The expression as a sign for the concept: The expression signifies the concept in one of three ways: (1) by correspondence (al-mutâbiqa), as "human being" signifies "rational animal." Here there is total parallelism between the concept signified "rational animal" and the signifying expression "human being." (2) By implication (al-tadamum), as "human being" signifies "animal." Here the concept signified is only a part of the concept for which the signifying expression stands. Or (3) by necessity of following (al-ultazm), as "human being" signifies "capacity for laughter," or "capacity for crying." Here the concept signified is not a part of the concept for which the signifying expression stands, but an inseparable external part.

b. Single and composite expressions: A single expression is one whose parts cannot have signification as long as they are its parts. We are told that some scholars, whose identity is not revealed, think that a qualification here must be added, namely that the parts of a single expression do not signify anything of the whole of the concept for which the expression stands; but that they may signify something outside this concept. Ibn Sina's reply is that this qualification is not needed for completing his notion of a single expression, but perhaps for making it better understood. For he had already stated that inasmuch as the parts of a single expression are parts of such an expression, they do not signify anything. This excludes them from

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41 Conception in the imagination is not abstract, i.e., it is accompanied by matter; while conception in the intellect is abstract, i.e., it is free from matter.
42 Nat. p. 11.
43 Sh. Med., p. 22.
44 Ibid., p. 23.
46 Ibid., p. 23.
being parts of a composite expression, for example – the nature of a composite expression will soon be discussed – or separate expressions.

The qualification that Ibn Sīnā makes is whether or not the part of an expression signifies something depends on the speaker’s intention. If the speaker does not intend the part to signify something, then the expression is composite.

The question: “How can the hearer distinguish a single from a composite expression, since the intention of the speaker is not accessible to him?” is not touched upon. But if it were asked of Ibn Sīnā, he may resort to convention, as it is usual for him to do when confronted with similar linguistic problems. In attempting to solve such problems, Ibn Sīnā usually relies on the intention of the speaker and on convention.86 But since it is the intention of the speaker that is in question here, he is left with convention.

A composite expression, on the other hand, is one whose parts can have significations. Composite expressions are, in turn, divided into two kinds: complete and incomplete. A complete expression is one in which every part has separate significations, as does the verb and the noun. An incomplete expression is one in which there is at least one part which does not have significations, except by means of the rest of the expression. This part is the particle, such as “under” and “not.” The noun signifies a concept, and the verb signifies a concept and its temporal determination; and the particle has no separate significance.

Single expressions are not useful for moving from the known to the unknown. Only very few objects can become known in conception through a single expression; and even there the conception of such objects is deficient and bad. The majority of such objects become known through composite expressions.85 Nor can one move from a single expression to assert, an important tool for getting from the known to the unknown. That is because in order for a single expression to lead to assert, it must be able to cause affirmation and negation; but a single expression cannot do both, otherwise it would be and not be. But this is impossible. Thus affirmation and negation must be caused by something external, yet joined to the single

86 See, for example, the Third Method, note 27.
85 Sh. Mod., p. 21.

expression. However, when this happens, the expression is no longer single.82

C. Individual and universal expressions. An individual expression is one which cannot be stated of more than one thing, whether potentially or actually. A universal expression is one which can be so stated, whether potentially, actually or in conception. “This cat” and “John” are examples of individual expressions. “Cat,” “spherical figure enclosing the twelve pentagonal sides of a regular dodecahedron” and “sun” are examples of universal expressions – the first actually, the second potentially and the third in conception. Ibn Sīnā expects that one may object saying: what about expressions like: “John” or “Zayd”? Why are they not universal expressions since they apply to many individuals? Here is Ibn Sīnā’s response: even though they may share in the expression “Zayd,” they do so, not in the concept that corresponds to this or that “Zayd” but only in the utterance of this expression.84

According to Ibn Sīnā, a logician should be primarily concerned with universal expressions: for one thing there is an infinite number of individual expressions, something which would make their study impossible. And even if their study were possible, it would not help us complete our wisdom,85 which can be accomplished only by grasping the essences of things. Ibn Sīnā is convinced that individual expressions do not signify concepts of separate realities. Therefore, a study of them would be superfluous. In the last analysis, only a study of universal expressions will lead to an understanding of the natures of things, which are the ultimate objects of knowledge. Individual expressions, on the other hand, stand more for than the concepts that represent the natures of things, i.e., they also signify the proper accident of the individual; and thus are apt to confuse the mind as to the realities of things. The expression “Zayd” does not signify “human being,” which is the nature of Zayd, but also a certain height, weight, color, posture, etc.

This is not to say that the logician should not be interested in any type of accident, but only in universal accidents; and in these, only in

82 Ibid.
83 The word Ibn Sīnā uses here is “al-munāṣir” (the audible).
84 Sh. Mod., p. 27.
85 Ibid., pp. 27-28.
so far as they help us determine the natures of things, as we will soon see. With this in mind, we can now move to an investigation of universal expressions.

d. Universal expressions (the predicables). Of universal expression there are three main types: (A) that which is essential, (B) that which is accidental, yet unavoidably attaches to the subject, and (C) that which is accidental, and which is separable from the subject.

(A) The term “essential” is used by Ibn Sinā to refer to the constituents of the essence; that is, to that which cannot be removed from the essence, without, at the same time, leaving the essence other than what it was. In other words, “essential” refers to that without which the essence cannot be conceived as it is. Examples are “animal” and “rational” for “human being.”

It must be mentioned, however, that there are some non-constitutive universals which are also said to be elements without which the essence cannot be conceived. These are the necessary concomitants. Ibn Sinā is critical of those who are unable to see that there are some elements other than the constituents, without which the essence cannot be conceived. But this must not be taken to mean that the elimination of such necessary concomitants leads to the elimination of the essence: but that their removal indicates that there is no essence to which they attach. If there is no “capacity for laughter” then there is no “human being.” The removal of the essence itself is caused by one or more of its internal elements. Thus while necessary concomitants resemble the essentials in that the essence cannot be conceived without them, they differ in that the removal of the former indicates that the essence has been removed but the removal of the latter causes the removal of the essence.

“Essential” is also used to refer to the species as a constituent of the reality of the individual. As “animal” is a constituent of the reality “human being,” so also “human being” is a constituent of the reality of “John.”

In both of the above senses of “essential” the term is used to refer to a constituent. The difference between the two is that the constituent referred to in the first case is a constituent of a universal reality, while in the second case it is a constituent of an individual.


Bn Sinā emphasizes that “essential” in the sense of “constituent” should not be confused with “essence.” The former is an indispensible part of the essence, while the latter is the totality of such parts.

(B) The concomitant accidental is that quality which necessarily attaches to the essence—by virtue of the essence—yet without being a constituent of the essence. It is such qualities that have been said to share with the essentials the fact that they cannot be removed from the conception of the essence. It is perhaps for this reason that these qualities have also been said to be “essential.” However, it should be remembered that they are essential accidents, and not purely essential. It must also be noted that Ibn Sinā reserves the term “essential” in the logic of al-ʾIshārāt wa-Tanbihāt for the first type of “essential” that has been mentioned, i.e., to that which is a constituent of the essence or reality. Here are two examples of the concomitant accidental: “equality of angles to two right angles” for “triangle” and “capacity for laughter” for “human being.”

(C) The separable accidental differs from the essential in that it is not a constituent of the essence; and it differs from the concomitant accidental in that it does not necessarily attach to the essence; and hence it can be eliminated from the conception of the essence.

Now that this has been said, let us now consider which universals belong to which of the above-mentioned three categories. All in all, there are five universals: the genus, the species, the difference, the property and the common accident. Of these, the first three are essential, yet their essentaility is relative. The genus and the difference are essential in relation to the species for they are constituents of it. “Animal” and “rational” which are the genus and the the difference for “human being,” respectively, are constituents of “human being,” and, therefore, are essential with respect to it. The species, on the other hand, is a constitutive element of the concrete individuals subsumed under it, and is, therefore, essential with respect to them. But even though the genus and the difference are essential with respect to the species, they nevertheless play different roles with respect to it: the genus informs us that there is a common nature between the species and all other species that fall under that genus. The difference informs us that there is a distinction between the species and all other species that fall under the same genus. “Animality” presents to us “human being,” “horse” and “cat” as sharing in one nature, i.e., “animality.” “Rationality,” on the other hand, presents to us “human being” as
different from any other animal species. It is for this reason that the
genus is said to answer the question: "What is it?" for it gives us the
general nature of all the species that are subordinate to it. However,
according to Ibn Sīnā, it is not inasmuch as the genus is an element of
the species that the genus answers this question, but only inasmuch as
the species is considered under the aspect of being an instance of the
genus.

The difference is said to answer the question, "Which thing is it?"
for it distinguishes a species of the same genus.

Now, what of the species? It presents all the individuals that are
subordinate to it as having the same kind of nature, even though
differing in number. That is why it, too, is said to answer the
question, "What is it?" for it presents the individual of a certain
species as having the same specific nature as any other individual
falling under the same species.

Both property and the common accident are accidental: i.e., they
are not constituents of the essence. But, as mentioned, the accidental
is of two types: that which is inseparable from the essence and that
which is separable. Again, property, which Ibn Sīnā identifies as a
universal quality belonging to one universal subject only, divides into
that which is inseparable and that which is separable. Ibn Sīnā agrees
with Porphyry\(^{17}\) that the Ancients used the term property in four
senses:

1. That which belongs to a subject, and not to it alone, as "two
footed" belongs to "human being.

2. That which belongs to all the members of the subject at all
times, such as, "capacity for laughter" for "human being.

3. That which belongs to some members of the subject, such as
"peasantry" for "human being.

4. That which belongs to all the members of the subject, but only
for some time, such as, "youth" for "human being.\(^{18}\)

Ibn Sīnā considers (1) as "unreal property," and (2) and (4) as kinds of
"real property." He thus dismisses (1), and discusses only the
remaining three kinds, concentrating on (2) which, according to him,

\(^{17}\) Porphyry, Hugger, ed. and trans. Edward W. Weiren (Toronto: Pontifical


is the best kind of real property. Only that property belongs to all the
members of the subject, and always is inseparable from the essence
and hence cannot be removed from the conception of the essence.

The common accident, which Ibn Sīnā identifies as that quality
which belongs to the subject and to others, is also either inseparable
or separable. The inseparability of certain common accidents is,
however, only in existence. This is exemplified by "black" for
"crow." In conception, you can free "crow" from "black"; you can
imagine him blue or white, without changing his essence. But in
actual existence, "crow" can never be other than "black."

A separable accident is something like "two hundred pounds
weight" for "this man." This kind of common accident is separable
even in existence: "this man" could be "one hundred seventy-five
pounds weight" next month.

All of this equips us with knowledge of the simple elements of the
explanatory phrase and the parts of the proof. Thus we can now
proceed to the explanatory phrase.

6. THE EXPLANATORY PHRASE

Ibn Sīnā discusses two kinds of the explanatory phrase: (1)
definition and (2) description.

1. The definition is a phrase which signifies the essence of a thing.
Since the essence has certain constituents, the definition must have
parts that indicate these constituents. In other words, the definition
signifies the essence through signifying its constituents by
implication. Take, for example, the essence of "human being." Its
constituents are that which is common to it and to other things under
the same genus, i.e., the genus, "animal," and that which is proper to
it, i.e., the difference "rational." The definition of "human being"
must, therefore, indicate "animal" and "rational." Thus this definition
would be "rational animal."

Now what if there were a simple essence, i.e., an essence which
cannot be composed of a genus and at least one difference? Such an
essence must be, according to Ibn Sīnā, indefinable. For every
definable must be in concept a composite of both a genus and at least
one difference. It follows that Ibn Sīnā's God, being a simple reality,
must be indefinable. The same is true of whatever has no essence. For
such an entity, there could only be an expression that indicates the meaning of its name.  

If a certain essence has more than one difference, for the definition to signify this essence, it must indicate all its differences. If, on the other hand, it indicates one of them only, then the identifying phrase provides an essential distinction between this essence and others falling under the same genus, or in existence at large, but it could not signify this essence. The example given by Ibn Sīnā is “animal” which has two differences: “sensible” and “moves voluntarily.” If you were to say, for example, “animal is a sensible ensouled body” — “ensouled body” being the genus of “animal” — you would have made an essential distinction between “animal” and every other “ensouled body.” But you would not have given a definition. Sometimes Ibn Sīnā refers to such an identifying phrase as “definition.” It must be remembered, though, that this is not a definition in the real sense.

To recapitulate, the definition is a phrase which determines the essence by means of indicating all the common and proper constituents. Neither more nor less than this can enter the definition. Thus no accident of any sort can be represented in the definition; nor is it appropriate to represent one difference only when more than one belongs to the essence.

(2) Like the definition, the description is a phrase that signifies the genus by implication, but it differs from the definition in that it has no part that signifies the difference or differences. Instead, it has parts that signify the properties that attach to the essence. The following are examples of description: “Human being is an animal with the capacity to laugh, the capacity to cry, and with broad nails,” and “Triangle is a figure with three angles.”

What is not clear from Ibn Sīnā is whether all properties must be represented in the description. The examples of description he gives clearly show that the representation of some properties is sufficient. We know, according to Ibn Sīnā, that “human being” has many more properties than those listed in the first example of description, given above. Examples of such properties are “capacity for writing,” “walking on two feet” and “passantry.” Two points must here be made. First, all the properties mentioned in the examples of description given by Ibn Sīnā are examples of properties that belong to all the members of the species at all times. Second, even though Ibn Sīnā seems willing to call identifying phrases which include only some properties, of the type just mentioned, “descriptions,” it would seem reasonable to assume that such phrases are descriptions, yet not in a real sense. A description in a real sense must be one in which all such properties are represented. This would fit in with Ibn Sīnā’s view of definition.

In short, a description in the real sense is one in which the genus as well as all properties that belong to the subject at all times are represented.

These are the proper forms of the definition and the description. But, as mentioned, there are improper forms. Seven such forms are enumerated by Ibn Sīnā:

1. Unfamiliarity of expressions employed in identification. Since the purpose of the identification is to get from the known to the unknown, the identification would defeat its purpose if it were also to begin with what is unknown.
2. Identifying a thing by means of that which is of an equal epistemic state, i.e., by that which is equally known or equally unknown.
3. Identifying a thing by what is more unknown than that which is being identified.
4. Identifying a thing by itself (circular identification).
5. Identifying a thing by something which cannot be identified except by what is being identified (indirect circular identification.)
6. Identifying a thing by mentioning what is unnecessary.
7. Identifying a thing by its correlative. This mistake is due to one’s inability to distinguish the following two statements: “When A is known, B is known.” and “When A is known, it is known by B.” While the former statement is true of correlatives, the latter is not.

7. ON Propositions

The discussion concerning propositions divides into four parts: (a) the nature and kinds of propositions, (b) the matters and modes of propositions, (c) contradiction and conversion and (d) propositions involving assent and those resembling them.
a. The nature and kinds of propositions: A proposition is a phrase which is either true or false. Of this there are two main types: (A) predicative propositions (Aristotle's categorical propositions) and (B) conditional propositions which in turn divide into (a) connective conditional propositions (the Stoic conditional propositions) and (b) disjunctive conditional propositions (the Stoic disjunctive propositions).

(A) A predicative proposition is a phrase in which an idea is asserted of another—the former idea is called the "predicate" and the latter the "subject." The assertion takes place by means of what is called the "copula." Such a proposition is either affirmative or negative: "A is B," or "A is not B." The latter type of proposition, however, should not be confused with "A is non-B." For here the negative particle is a part of the predicate, and does not negate the copula, as it does in a negative predicative proposition.

A predicative proposition is either definite, indefinite or singular. A definite proposition is either universal or particular. A definite proposition is preceded by a sign (quantity indicator) that indicates whether the judgment applies to all the members of the subject, or only to some. In the first case the judgment is said to be universal, and in the second it is said to be particular. As for the indefinite proposition, there is no sign to indicate whether the judgment in it applies to all the members of the subject, or only to some. And thus the judgment can be taken either universally or particularly. The fact that the subject of the indefinite proposition is universal does not necessitate the universality of the judgment. And finally, a singular proposition is one which, like the indefinite one, is not preceded by any sign, but differs from it in that its subject is an individual.

Thus, we get eight kinds of predicative propositions:

1. affirmative universal (A proposition).
2. negative universal (E proposition).
3. affirmative particular (I proposition).
4. negative particular (O proposition).
5. affirmative indefinite.
6. negative indefinite.
7. affirmative singular, and
8. negative singular.

According to Ibn Sina, both indefinite and singular propositions must be discarded from science; for the former is confusing, and the latter is not useful. 46 Indefinite propositions are confusing because, as mentioned, it is not clear whether the judgment is universal or particular. And singular propositions are not useful, because, as stated earlier, the ultimate purpose of a human being is to achieve knowledge of the essences. Singular propositions enable us to acquire knowledge only about individuals, which are collections of accidents attached to essences.

(B) A conditional proposition is one whose main parts were originally propositions. But they have lost the quality of being propositions, after having been attached to particles such as "if-then" or "either-or." It is the whole conditional that counts as a proposition. This is a point on which Ibn Sina puts a great emphasis.

(a) A conditional proposition whose parts are attached to if-then, is a connective conditional. Here the part of the connective conditional which plays the role of the predicate (the consequent) is not asserted of that which plays the role of the subject (the antecedent). Rather, it is said either to follow necessarily from it, or to attach to it by chance.

(b) A conditional proposition whose constituents are attached to "either-or" is a disjunctive conditional. Again, that which plays the role of the predicate (the consequent) is not asserted of that which plays the role of the subject (the antecedent). Rather, the consequent is said to be in conflict with the antecedent.

Of disjunctive propositions, there are two types: the real disjunctive and the unreal disjunctive.

The real disjunctive is one in which the parts of the proposition are exclusive of each other: they cannot be true, nor can they both be false. As for the unreal disjunctive, it is either one in which the parts can all be true, but they cannot all be false; or they can all be false, but they cannot all be true. It is clear, then, that the definition of a disjunctive proposition given by Ibn Sina, namely that it is one whose parts are in conflict, applies to the real disjunctive only.

It is because the whole of the conditional and not its parts constitutes a proposition, that Ibn Sina treats conditional propositions in the same manner he treats predicative ones. Thus similar to predicative propositions, conditional propositions can be either affirmative or negative. And also similar to them, they can be either

definite or indefinite. The definite are preceded by a quantity indicator, and the indefinite are not. The following are examples of definite connective conditionals:

"Whenever the sun is out, then it is day" (A proposition).
"It is never the case that if the sun is out, then it is night" (E proposition).
"Sometimes when the sun is out, the sky is cloudy" (I proposition).
"It is not the case that whenever the sun is out, then it is cloudy" (O proposition).

And the following are examples of definite disjunctive conditionals:

"Always this number is even, or it is odd" (A proposition).
"It is never the case that either the sun is out, or it is day" (E proposition).
"Sometimes, Zayd is in the house, or Amr is in the house" (I proposition).
"It is not the case that either fever is choleric, or it is inflammatory" (O proposition).

It is true that Ibn Sīnā’s predicative propositions are those of Aristotle, and his conditional propositions were already present in Stoic logic; but his equal treatment of the predicative and conditional propositions shows independence from these two schools. His discussion of conditional propositions with respect to quality and quantity is, for example, a mark of originality. In this Nicholas Rescher testifies: "So far as I have been able to determine, Avicenna is the first writer in the history of logic to give an analysis of hypothetical and disjunctive propositions that is fully articulated with respect to quality and quantity."

b. The matters and modes of propositions: Earlier we spoke of the concepts in a phrase as its matter. But “matter” is also used in the sense of the subject-predicate relation. (Remember that since the conditional proposition is treated by Ibn Sīnā it the same manner as a predicative one, whatever is said here of the subject-predicate relation also holds for the antecedent-consequent relation.) The predicate attaches to the subject either in a manner which cannot be otherwise (necessity of existence) or in a manner which can be otherwise (possibility) or in a manner which cannot but be otherwise (impossibility: necessity of non-existence)—the first and third are subsumed under the name “necessity.”

When this relation is an internal state of the proposition, apart from expression, it is the matter of the proposition. But this state can be made explicit in language, and as such, it is the mode of the proposition. Thus we get three modes: necessity of existence, possibility and impossibility.

While it is impossible, in reality, for the predicate not to have one of these three relations to the subject, in expression, it is possible to affirm or deny the predicate of the subject, without expressing the manner of their relation. That is, you can say “A is B,” without attention as to whether or not this can be otherwise. Such a statement is called “absolute” or “non-modal.”

Since a discussion of necessity and possibility will prove important for an understanding of demonstration later on, we will give a brief sketch of this discussion.

Necessity is of two main types: (A) eternal or absolute (not conditioned), and (B) conditioned necessity which is, in turn, of several kinds: (a) conditioned by the existence of the essence of the subject; (b) conditioned by the duration of the subject’s being qualified by a certain quality; (c) conditioned by the duration of the predicate; (d) conditioned by a determined time; and (e) conditioned by a non-determined time.

(A) and (Ba) are the only kinds of real necessity. The necessity of (b) through (e) is unreal. And propositions that involve this kind of necessity are called “concrete.” Concrete propositions together with those involving duration without necessity are called “non-necessary” or “absolute.” Remember, though, that “absolute” in this sense is not “absolute” in the sense of “non-modal.” Unfortunately, it is often the case that Ibn Sīnā mentions “absolute” without specifying in what sense he is using the term “absolute.” This creates additional difficulties and requires careful attention.

As for possibility, it divides into the following kinds:

(A) The negation of impossibility. (This is “possibility” in the common or general sense.)
(B) The negation of impossibility as well as the negation of the necessity of existence. (This is “possibility” in the real or proper

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sense.) Necessity of existence is subsumed under "possibility" in the first sense, but it is excluded from "possibility" in the second sense. However, unreal necessity is subsumed under the latter kind of possibility.

(C) The negation of any kind of necessity. (This is "possibility" in the most proper sense.)

(D) The negation of future necessity.

c. Contradiction and conversion: Two propositions are contradictory if one is true and the other false. A number of conditions must be satisfied in order for contradiction to obtain.

(A) The meaning of the parts of the one proposition must be the same as that of the parts of the other, and both must be under the same states. If, for example, you say "John has seen a red 'ayn," and "John has not seen a red 'ayn," and you mean by the first "'ayn" "eye," and by the second "'ayn" "water fountain," then you would not have made two contradictory statements. Or if you say "John writes" and "John does not write," and you meant by the first "write" "write in potentiality," and by the second "write" "write in actuality," again you would not have made two contradictory statements.

(B) If the propositions are definite, then one of them must be universal and the other particular.

(C) One of the propositions must be affirmative and the other negative.

But these conditions are not sufficient to bring about contradiction between two absolute propositions, whether "absolute" is taken in the general or in the concrete sense. Rather, what is further needed is a specification of time in one of the propositions, such that the time of the truth of one overlaps with the time of the falsity of the other.

Let us first take "absolute" in the general sense, and say "Absolutely, every A is B." The contradictory of this proposition is: "Some A is always not B." For the first proposition does not specify a time of the truth of this proposition. This means that while this proposition may be true now, it may not be true tomorrow. Rather, its contrary: "Absolutely, no C is B" may be true tomorrow. And thus "Absolutely, some C is not B" may be true with "Absolutely, every C is B." Because an absolute proposition taking "absolute" in the general sense, is free from the element of time, its contradictory must be a proposition applicable to all times.

Also, if "absolute" is taken in the concrete sense, an absolute proposition is contradicted by a proposition applicable to all times. While an absolute proposition in the first sense does not specify any time, an absolute proposition in the present sense specifies "some time." If, for example, you say, "Concretely, every C is B," what you are saying is that for some time, every C is B. But again, "For some time, some C is not B" may be true with this proposition. The contradictory of "Concretely (for some time), every C is B" must, therefore, be "Some C is always B or it is always not B." This is the same as saying "Not concretely, some C is B."

Similarly, the contradictory of any other affirmative modal proposition is one in which the mode is negated, and not one in which the proposition itself is negated. The contradictory of "Necessarily every C is B" is "Not necessarily, every C is B." And the contradictory of "Necessarily, no C is B" is "Not necessarily, no C is B."

Conversion is making the subject a predicate and the predicate a subject, with the retention of the quality and the truth or falsity of the proposition. Again, Ibn Sina discusses the conversion of non-modal and modal propositions.

In specific absoluteness, a universal negative proposition converts to itself. However, this is so only under the following condition: when the absolute proposition is of the type which involves necessity of the subject's being qualified by the quality accompanying it. For it is only here that if, for example, "No movable changes as long as it moves" then "Nothing of that which changes moves as long as it moves." But in a proposition whose absoluteness is general, while "No A is B" may be true, "No B is A" may be false. That is because the predicate may be more general than the subject.

An absolute universal affirmative proposition, taking "absolute" in the concrete sense, converts to a particular affirmative. An absolute particular affirmative converts to itself. And a necessary particular negative does not convert.

A necessary universal negative converts to itself. A necessary universal affirmative converts to a particular affirmative. A necessary particular affirmative converts to itself. And a necessary particular negative does not convert.

41 Kel., p. 28.
Finally, a possible universal negative does not convert. A possible universal affirmative converts to a particular affirmative. A possible particular affirmative converts to itself. And a possible particular negative does not convert.

d. Propositions involving assent and those resembling them: In an-Najât, nine types of propositions involving assent are listed.\(^43\)

(1) Sensible propositions: these are propositions whose assent is derived from external senses only.

(2) Experiential propositions: these are propositions which are the result of the retention of repeated sense experience, whether this experience is of the external or the internal sense – propositions of these two types of experience will be classified in al-Ishârât wa-Tambîhât under “observational propositions.”

(3) Propositions based on unanimous traditions: these are propositions in which assent is derived from multiple testimonies.

(4) Received propositions: these are propositions whose assent is derived from scholars or respected religious leaders.

(5) Estimative propositions: these are propositions in which assent is derived from the estimative power. They are false if their subject is non-sensible; and true if their subject is sensible.

(6) Widespread propositions: these are propositions whose assent is derived from their being widely-known. They are either primary propositions – these are true; or propositions based on notoriety – these may be true or false.

(7) Presumed propositions: these are propositions whose assent is derived from a strong inclination of the soul with a conviction of the mind that the opposite is possible.

(8) Imagined propositions: these propositions produce a strong effect on the soul, because of their resemblance to primary or widely-known propositions. Imagined propositions do not involve assent in a primary sense, but only secondarily, inasmuch as they resemble those that involve assent. That is why, in some places, they are classified as propositions that do not involve assent.\(^44\) And in other places, such as in an-Najât, they are classified under propositions that involve assent. It must be remembered, though, that they are said not to involve assent in a primary manner, and to involve assent in a secondary manner.

(9) Primary propositions: these propositions derive their assent from the essence of a clear intellect, so that, whenever their terms are grasped by the intellect, a judgment is made.

All of these are given as propositions involving assent without mediasion.\(^45\) That is, one can accept these propositions without having to go back to other propositions.

In al-Ishârât wa-Tambîhât, this list of propositions is given with some variation. Here are the kinds listed:

(1) Primary propositions.

(2) Observational propositions: these differ from the sensible propositions listed in an-Najât, in that they do not only include propositions derived from external senses – as do the sensible propositions, but also propositions derived from the internal senses – the latter being propositions concerning our knowledge of ourselves, our acts, fears, etc.

(3) Experiential propositions.

(4) Intuited propositions: notice that these propositions are not listed in an-Najât. It is not clear from al-Ishârât wa-Tambîhât what intuited propositions are. All that we are told is that they are “propositions in which the principle of the judgment is a very strong intuition of the soul, with which doubt is removed and to which the mind submits.”\(^46\) But what is an intuition? The answer is found in al-Burhân: “It is such that if the object sought is presented to the mind, the middle term is also presented without search.”\(^47\)

(5) Propositions based on unanimous traditions.

(6) Propositions containing syllogisms: these are missing from the list in an-Najât. They are described in al-Ishârât wa-Tambîhât as “propositions in which assent is made only due to an intermediary. That intermediary is not among what escapes the mind – thus requiring the mind to seek it. Rather, whenever the two extreme terms of the problem are present to the mind, the intermediary is also

\(^{43}\) Ibid., pp. 60-66.

\(^{44}\) Sh. Bur., p. 63.

\(^{45}\) Nah., p. 60.

\(^{46}\) Ism., Part I, p. 348.

\(^{47}\) Sh. Bur., pp. 59, 259.
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present to it." But the question remains as to how these propositions differ from intuitive propositions.

All the above mentioned propositions are those that must be accepted.

(7) Widely-known propositions.
(8) Estimative propositions.
The above eight kinds of propositions are subsumed under "beliefs."

(9) Propositions based on outside source: these include received and determined propositions—the latter being either propositions based on the admission of the interlocutor or propositions employed in the premises of the sciences.
The above nine kinds of propositions are called "admitted propositions."

(10) Presumed propositions.
(11) Ambiguous propositions.
(12) Imagined propositions.

It is clear from this that not all propositions involving assent are true propositions, but are propositions which are thought to be true. An arguer can employ any of these propositions in the premises of an argument. However, it is only those propositions involving assent corresponding to the truth, i.e., the certain propositions, that can lead to demonstration, the most assured form of science. In an-Najāt the following propositions are said to be non-certain: widespread propositions, received propositions and presumed propositions. Imagined propositions are not classified under those that are certain or those that are non-certain. The remaining kinds of propositions are classified under those that are certain. 49

In the Treatise on Logic first principle propositions (primary propositions), perceptual propositions (sensible propositions), experimental propositions (experiential propositions) and testimonial ones (propositions based on unanimous traditions) are said to be employed in the premises of the syllogism, a kind of discourse which is said there to give certainty and truth. But it should have been said instead that they are employed in the demonstrative syllogism for it is only

this kind of syllogism which is held by Ibn Sinā to give certainty. Propositions based on authority (received propositions) and propositions based on custom (widely-known propositions) are employed in dialectic, a kind of discourse which, though it does not give certainty, has, nevertheless, the following advantages:

(1) One can defend, in argument, those people who pretend to have knowledge, but who are really ignorant to the premises of their argument. (2) One can demonstrate truth to those who do not understand syllogistic reasoning. (3) It is often the case that students of the minor sciences, like medicine, geometry, and natural science, take on faith the principles of their science. The teacher of the metaphysics, the science of sciences, can show these students, by means of dialectic, how the premises of their sciences are derived from metaphysics. (4) One can show what things taken to be true are false, and what things taken to be false are true. In so doing, one can alert the student to errors and deficiencies in argument. 50

Dubious propositions (in al-Ishārāt wa-Tanbihāt, these propositions are said to be those that are ambiguous) and those raised by the imagination (estimative propositions) are employed in sophistical discourse, a kind of discourse which gives no knowledge. Propositions known by authority, those which appear to be known by custom and those raised by our fears and suspicions fit is not clear what the last two kinds of propositions are; it is our guess that "propositions that appear to be known by custom" are "presumed propositions"—our conjecture is based on the fact that in al-Ishārāt wa-Tanbihāt, rhetorical syllogisms are said to employ received propositions and presumed ones are employed in rhetoric, a kind of discourse used by theologians and politicians. And propositions raised by emotions (imagined propositions) are employed in poetical discourse. 51

We thought it fit to outline here Ibn Sinā’s discussion of propositions involving assent and those not involving assent as given in al-Burhān. 52 This outline will give the reader a different perspective

50 Naṭ, p. 66.
51 Tr., Log., p. 42.
52 Ibid.
of these propositions. This will be helpful in understanding the Sixth Method and in the study of the syllogism, since in al-Burāhīn the classification of these propositions is made with their being principles of syllogism in mind.

The principles of syllogisms are either:

I. Propositions not involving assent: these are the imagined propositions. The effect they leave on the soul plays the role of that by means of which assent occurs. Such propositions do not have a primary use in syllogisms. They are the principles of poetical syllogisms.

II. Propositions involving assent are either:

1. Propositions whose assent is necessary; these are either:
   (1) Propositions whose necessity of assent is external; these are:
   (A) sensible propositions;
   (B) experimental propositions; or
   (C) propositions based on unanimous traditions.
   (2) Propositions whose necessity of assent is internal. Internal necessity is either:
   (A) From the intellect; these are either:
       (a) from the intellect by itself; these are the primary propositions which must be accepted.
       (b) from the intellect aided by something else; these are either:
       (b1) Propositions in which what aids the intellect is something not instinctive to the mind. Assent here is acquired; and thus it is subsequent to the principles. No further mention of this kind is given here, since the present discussion is concerned with principles of syllogisms.
       (b2) Propositions in which what aids the intellect is something instinctive to the intellect, i.e., whose middle term is present to the natural mind. No further inquiry to acquire it is needed; this kind is called "a premise with a natural syllogism" (muqaddama fi ṭaḥrīr al-qiyās) – in the sense that the middle term of its syllogism is simultaneous with it.
   (B) External to the intellect: propositions whose necessity of assent is external to the intellect are judgments of the estimative power. These are judgments whose necessity is estimative, if they are about matters concerning which the intellect does not have a primary judgment. Such matters are non-sensible. Thus the estimative power obliges the soul to give necessary judgments by considering such matters as if they were sensible. Such necessity is unreal in contrast to that of the intellect. Propositions whose assent is necessary, and which are employed in demonstration, are only those whose necessity of assent is real.

2. Propositions whose assent is admitted, without their opposite being present in the soul; these are either:
   (1) Propositions whose admission is valid; these are:
   (A) Propositions in which the admission is common; these are:
       (a) Propositions whose admission is based on the opinion of all people. These are accepted widely-known propositions. If they are true, their truth is not made evident by the natural mind. Among these widely-known propositions, there are those that can be true; but in order for them to become certain, they require proof. Among the widely-known propositions, it is also possible to find false propositions. The present kind of propositions, i.e., (a), is the unrestricted kind of widely-known propositions.
       (b) Propositions whose admission is based on the opinion of a group of people are exemplified in propositions whose admission is based on the opinion of religious leaders, or the opinion of the masters of a skill. This kind of propositions is called "restricted widely-known propositions." Of (b), there are also those that are exemplified in propositions whose admission is based on the opinion of one or two individuals, or any limited number of individuals in whom one has confidence. These are called "received propositions."
   (B) Propositions in which the admission is that of one individual. These are useful in syllogisms addressed to that particular individual. Neither the speaker nor the syllogism benefits from them.

3. Presumed propositions are based on opinion, and not certainty. The source of the presumption is either:
   (1) Resemblance to widely-known propositions. Because of this, such presumptive propositions are at first widely-known. But further consideration reveals that they are not widely-known.
(2) The source of the presumption is confidence – but it is not clear, confidence in whom. Presumptive propositions are useful in syllogisms insasmuch as they are accompanied by a belief, and not insasmuch as their opposite is present in the mind.

All the above principles of syllogisms are given by the syllogizer. There are also those that are given by the teacher. These are such that the student is asked to admit something on which evidence for something else is established. Thus the student posits them. These are called “posited principles” and “postulates.”

8. THE PROOF

Analogy, induction and syllogism are the three types of proof listed by Ibn Sīnā.

(1) Analogy is a judgment about a particular thing, based on the similarity between that particular thing and another. Here is an example:

The world is originated, because it is a composite body resembling a building.
A building is originated.
Therefore, the world is originated.\(^{13}\)

Four elements are involved in analogy:

(1) the fundamental: that which is said to be resembled, such as “building,” in the above-mentioned example;
(2) the branch: that which is said to resemble, such as “world” in our example;
(3) the common idea or cause: that which is shared by the fundamental and the branch, such as “composite body” in the present example; and
(4) the judgment about the branch, such as “originated” in the same example.

Analogy is the weakest form of proof, because it is a judgment about a particular thing; and we know that such judgments do not count as scientific in Ibn Sīnā’s view. Further, analogy can never give

\(^{13}\) Māj., p. 58.

us certitude. For two particular things that are similar in a certain respect may be different in other respects.\(^{14}\) It is for these two reasons that Ibn Sīnā dismisses analogy in the sciences.

(2) Induction is a judgment about a universal, derived from judgments about particular cases of that subject. Induction is a more reliable form of proof than analogy, because the subject of the former is a universal while the subject of the latter is an individual. Still induction is not classified in our text as a correct science. It should be remembered, though, that there are two kinds of induction: complete induction and incomplete induction – the latter being the more common\(^{15}\) and the better known.\(^{16}\) In complete induction, the judgment applies to every member of the class.\(^{17}\) The conclusion of this kind of induction is certain.\(^{18}\) That is why this kind of induction is said to be demonstrative.\(^{19}\) In incomplete induction, the judgment applies only to the majority of the members of the class.\(^{20}\) Here the conclusion is probable.\(^{21}\) It is incomplete induction that Ibn Sīnā has in mind when he says that induction is not a correct science. This is the only kind mentioned in al-Ishārāt wa-Tanbīhāt.

(3) Like Aristotle, Ibn Sīnā considers the syllogism as the most reliable form of proof.\(^{22}\) And like him, he defines the syllogism as a discourse, consisting of propositions which when laid down necessarily lead to another proposition.

Syllogisms are of two main kinds: (A) conjunctive syllogisms and (B) repetitive syllogisms.

(A) A conjunctive syllogism is defined by Ibn Sīnā as one in which neither the conclusion nor its contradictory is actually stated in the premises. As we will soon see, this main feature clearly distinguishes the conjunctive syllogism from the repetitive syllogism. It is because

\(^{14}\) Tr. Log., p. 38.
\(^{15}\) Māj., p. 58.
\(^{16}\) Māj., p. 58.
\(^{17}\) Tr. Log., p. 38.
\(^{18}\) Tr. Log., p. 38.
\(^{19}\) Tr. Log., p. 38.
\(^{20}\) Māj., p. 58.
the premises of this kind of syllogism are conjoined by the particle “and” that it has come to be called “conjunctive.”

There are three kinds of conjunctive syllogisms:

(a) that which consists of predicative propositions;
(b) that which consists of conditional propositions, which can be either:
   (i) that which consists of connective conditionals: or
   (ii) that which consists of disjunctive conditionals: or
(c) that which is a mixture of predicative and conditional propositions.

(a) It has been said that a syllogism is one in which the conjunction of the premises necessarily leads to a conclusion. In order to point out the clarity of the evidence for this necessity of following of the conclusion, and the conditions for this necessity, four types of predicative syllogisms are distinguished:

(1) one in which the middle term is a predicate of both the minor premise and a subject of the major;
(2) one in which the middle term is a predicate of both the minor and the major premises;
(3) one in which the middle term is a subject of both the minor and major premises; and
(4) one in which the middle term is a subject of the minor premise and a predicate of the major.

These are known, respectively, as first, second, third and fourth figures – a figure being a syllogism whose form of the conjecture of premises is based on the manner of placing the middle term in relation to the other two terms.

The necessity with which the conclusion of the first figure follows from the conjunction of the premises is evident. That is why this figure is said to be perfect. The second and third figures (classified in the text as the third and fourth figures) are not as good as the first; for in them, this necessity of following is not immediately evident. However, they are accepted because they can be made to achieve the degree of evidence exhibited by the first figure, by reducing them to the first figure. This can be done by converting one of their premises.

The case of the fourth figure is harder. It takes the conversion of both premises to achieve this degree of evidence and perfection. It is for this reason that Ibn Sinā, while admitting the fourth figure, puts it aside as not worthy of treatment.

In al-Iṣḥārāt wat-Ṭanbihāt, only one condition is said to apply to the three figures: that the two premises cannot both be particular.

(b) Figures, similar to those formed in predicative conjunctive syllogisms, are also formed in conditional conjunctive syllogisms. Ibn Sinā mentions only the first three figures of conditional conjunctive syllogisms, the only worthwhile figures according to him. The rules governing these figures are said to be the same as those governing predicative conjunctive syllogisms.

In al-Iṣḥārāt wat-Ṭanbihāt, there is hardly any discussion of conditional conjunctive syllogisms. And no examples are given of such syllogisms. The reason seems to be that first Ibn Sinā feels that he had already exhausted the subject in al-Qiyās and in an-Najāt; and second, al-Iṣḥārāt wat-Ṭanbihāt is more of a summary of his views. That is why it should include his main important ideas. This is an indication that even though he admits that conditional syllogisms can be conjunctive, and criticizes those who are not willing to make this admission, he, nevertheless, does not consider them as important as predicative conjunctive syllogisms, which in al-Iṣḥārāt wat-Ṭanbihāt he treats at length.

(c) Of syllogisms that are formed of predicative and conditional propositions, al-Iṣḥārāt wat-Ṭanbihāt offers only some examples, and no discussion.

(B) A repetitive syllogism is one in whose premises either the conclusion or its contradictory is mentioned. A repetitive syllogism can be either

(1) a syllogism in whose premises a connective conditional is mentioned, or
(2) a syllogism in whose premises a disjunctive conditional is mentioned.

Of (1) there are only two valid forms, as exemplified in the following two statements “If A, then B: A, therefore, B,” and “If A, then B; not B, therefore, not A.”

11 Ish., Part I, p. 375.
In (2) the disjunctive mentioned is either (A) a real disjunctive, or (B) an unreal disjunctive.

In (A) there are two valid forms: one in which whatever part of the disjunctive is repeated, the conclusion is the contradictory of the part of the disjunctive which is not repeated; or one in which whatever part of the disjunctive is denied, the conclusion is the affirmation of the other part. An example of the former is “Either A or B; A; therefore, not B.” And an example of the latter is: “Either A or B; not A; therefore B.”

And finally, (B) could be either (a) one in which the disjunctive does not permit exclusion of all the parts, or (b) one in which the disjunctive does not permit union of all the parts. The valid form of (a) is a syllogism in which the denial of the repetition of any part of the disjunctive yields the affirmation of the other part as a conclusion: “Either A or B; not B; therefore, A.” And the valid form of (b) is a syllogism in which the repetition of any part of the disjunctive yields the contradictory of the other part as a conclusion: “Either A or B; A; therefore, not B.” Or “Either A or B; B; therefore, not A.”

9. ON DEMONSTRATION

In ancient and medieval times, demonstration was considered a very important, if not the most important, branch of logic. Ibn Sinā devotes a great part of his logic of ash-Shifāʾ, and takes it up in all of his other logical writings, with the exception of Manṭiq al-Mashriqīn. In al-Ishārāt wa-t-Tanbīhāt, the discussion of demonstration is particularly sketchy and difficult to follow. That is why we had to rely heavily on his other logical works, especially al-Burāhān, in order to understand this discussion.

The following are the main points discussed: a. the nature of demonstration and b. the things on which demonstration is based.

a. The nature of demonstration: If the syllogism is the most reliable form of proof, demonstration is the most certain kind of syllogism. A demonstration is a syllogism whose premises must be accepted, i.e., are certain. That is why the conclusion, too, is certain. But it is not because the conclusion is certain that demonstration is called certain: but because the premises are such.

Tr. Log., p. 29.

It does not seem to be the case that what is intended by “certain” is that the conclusion of the demonstration is certain. For if its conclusion is certain, this does not mean that it itself is certain .... I am most inclined to believe that what is intended by this is a syllogism composed of certain premises .... For if certainty were of the premises, the demonstration itself would also be certain.49

Two points must here be made. First, certainty is of two kinds: that which is always and that which is for some time.48 Second, “certain” and “necessary” are used by Ibn Sinā interchangeably. For according to him, what is certain is necessary, and vice versa. Therefore, the premises of the demonstration must be necessary. But then what do we make of Ibn Sinā’s claim that a demonstration can have either necessary premises (from which a necessary conclusion is drawn), possible premises (from which a possible conclusion is drawn) or a mixture of possible and necessary premises (from which a non-necessary conclusion is drawn)?47

In order to respond to this difficulty, we must first remember that “certain” or “necessary” are used in the above-mentioned two senses. In addition to this, we must also point out that Ibn Sinā distinguishes three kinds of possible propositions: (1) that which is possible in the majority of cases, (2) that which is possible in equal cases, and (3) that which is possible in a minority of cases. The first is inclined toward existence, the second is not inclined either toward existence or toward non-existence, and the third is inclined toward non-existence. These possible propositions can be considered from two perspectives: from the perspective of existence and from the perspective of possibility.

Considered from the perspective of existence, only the first kind of possible propositions is certain. However, it must be remembered that “certainty” here is for some time, and is hence, different from that involved in the purely necessary propositions in which certainty is always. Propositions whose possibility is of the second kind are not certain, in any sense, when considered from the perspective of existence. The same is true of propositions whose possibility is of the

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49 Ibid., p. 78.
third kind. Rather, propositions whose possibility is of the third kind are certain when considered from the perspective of non-existence.

If, on the other hand, these possible propositions are considered from the perspective of possibility, all of them would be certain or necessary. For they can never be other than possible. In other words, they are necessarily possible. Therefore, when in al-Ishārāt wa-Tanbihār, Ibn Sīnā is critical of those who hold that only necessary propositions and those that are possible in the majority of cases are employed in the premises of the demonstration, he is thinking of the other kinds of possible propositions looked at from the perspective of possibility. For even possible propositions whose possibility is in equal cases or that in the minority of cases can be so employed under the aspect of possibility, since, as mentioned, they too are certain under this aspect.

Of demonstration, there are two kinds: (1) causal demonstration and (2) factual demonstration.

1. A causal demonstration is one in which the cause of the judgment, in reality or existence, as well as in the mind, is given.

2. A factual demonstration is, on the other hand, one in which only the cause of the judgment in the mind is given.

b. The things on which demonstration is based: These are: (A) the principles of demonstration; (B) the subject of demonstration; and (C) the questions in demonstration.

(A) The principles of demonstration are the premises and definitions of which demonstration is composed.

The premises are either (1) propositions that must be accepted—these are employed by the syllogizer; (2) propositions admitted by virtue of confidence in the teacher—these are called posited principles; or (3) propositions admitted with doubt: in the student’s mind—these are called “postulates.” (2) and (3) are employed by the teacher.

As for the definition, it has already been defined as a phrase signifying the essence. However, this is not the kind of definition employed as a principle in demonstration. In al-Burānī, four kinds of definitions are listed: (1) the definition that gives the meaning of the

name—this kind of definition does not signify the existence of a thing or the cause of the existence of that thing, and for this reason it is called metaphorical or unreal definition; (2) the definition that signifies the essence—this is a complete or real definition; (3) the definition that gives the cause of the existence of the defined—this is employed as the middle term in a demonstration and since it indicates the cause only, it is called incomplete; and (4) the definition that is an effect of the definition which is a middle term in the demonstration—this fourth kind is a conclusion in a demonstration, but because it indicates the effect only, it is also referred to as incomplete.

However, both kinds of incomplete definitions, i.e., (3) and (4), are considered real—reason being that each of them indicates some aspect of the existence of a thing. (3) is the only kind of definition employed as a principle in a demonstration.

(b) The subject of demonstration is something whose essential accidents are investigated in the science, as one investigates the oneness of God in the divine science.

(c) Regarding the questions in demonstration, there are four principle questions: “Is the thing?” “What is the thing?” “Which is the thing?” and “Why is the thing?” The first of these questions seeks an assent about a thing; the second seeks a conception of a thing; the third seeks a distinction of it; and the fourth seeks the cause of the assent.

The question “Is the thing?” is either simple or compound. In its simple form, this question seeks the non-restricted existence of a thing, as in the statements: “Does God exist (muwajjīd)?” and “Does

* In this context, Ibn Sīnā use “existence” (wykālah) and “essence” (waḥīd) interchangeably. Thus the present kind of definition which signifies the essence is described in other places as one which signifies the existence of a thing. However, it is clear that what is intended is the nature or quiddity which is the essence, and not the existence. In fact, the existence of a thing is not indicated at all in this kind of definition. For essence is extrinsic to the essence, and only the essence is indicated. The procedure we have followed is this: when we are either quoting or giving a close paraphrasing of a passage from Ibn Sīnā, we use the term which he uses. be that “existence” or “essence.” However, when we are freely interpreting or commenting on a point, the term we have used is “essence” or “nature.”

* Sh. Bur., pp. 248-249.

* Fā. Part I, p. 469.
the void exist (marwjūd)?" For this reason, this form of the question is also called "the non-restricted form of ‘Is the thing?’" In its compound form, on the other hand, this question seeks the state or states of a thing as in the statements “Is (marwjūd) human being an animal?” or “Is (marwjūd) God a creator of the earth?” Because this kind of question seeks an aspect of the thing, it is called "the restricted form of ‘Is the thing?’" Notice that "exist" in the simple form of this question, and "is" in the compound form are translations of the same Arabic word "marwjūd." That is why it was difficult to render these two forms of the question in English under one name, as they are in Arabic. It must be remembered, though, that when "marwjūd" is used in the simple form of this question, it is a predicate, and when it is used in the compound form, it is a copula.

The question "What is the thing?" seeks either the comprehension of the name of a thing, or its essence. An example of the former is "What is the void?" By this is intended "What is meant by the name ‘void?’" This question is prior to every other question. For unless you know the meaning of the name employed, it would not make sense for you to ask further questions. An example of the latter is: "What is human being?" By this is intended "What is the essence or nature of ‘human being?’ This kind of question is preceded by the simple form of "Is the thing?" For unless you know that a thing exists, it would not make sense to ask about its nature.

The question "Which thing is it?" seeks to distinguish a thing from another, by inquiring about its essential attributes or properties. This question enters in potentiality in the simple form of "Is the thing?"

And finally, the question "Why is the thing?" is divided into two kinds: that which seeks the cause of the asent only, and that which seeks the cause of the existence of a thing.46

So far, only valid syllogisms have been discussed. But error may occur in a syllogism, thus rendering it invalid or fallacious. There is no need to discuss such syllogisms here, since Ibn Sina’s discussion of them in the Tenth Method is sufficiently clear.

What must be mentioned, though, is that this part on logic ends with an address to the reader, which may be summarized as follows. If after paying attention to all that has been said here you make an effort to repeat it, review it and make use of it, yet you still make an error, then you are not fit to pursue wisdom. For whatever one is fit for, one can do with ease.

III. A WORD ABOUT THE TRANSLATION

In this translation, an attempt has been made to strike some middle ground between a literal rendering, which does not always make sense in English, and a lucid rendering, which does not always capture the meaning intended. The best translation is that which is faithful to the original text and which is at the same time readable. But of course this is not always possible. It is hoped that where the translation has failed in this respect, the introduction and notes will succeed in dispelling the resulting difficulties.

In translating this work, appropriate division into paragraphs, and punctuation (including quotations and parentheses) were added. Bracketed mark expressions added to the text. The marginal numbering indicates the page numbers of Dunyâ’s edition. The reader may notice that often these numbers are not consecutive. The reason is that some pages of this edition do not have any text, but only at-Tusi’s Commentary. The transition from page to page is indicated by a slash (/). Where a reading different from that of Dunyâ is given, this has been indicated in a note, preceded by the word “text.” And where the Arabic is cited in a note, without being preceded by the word “text,” it is cited not because a different reading is given, but to show the reader what Arabic expression is used. We have found this to be a better procedure than putting the Arabic expressions in parentheses in the text. The latter method, which has often been used by scholars, tends to interrupt the reading and thus could make such a difficult text even more difficult. Finally, Arabic expressions are transliterated in the text, only when the discussion centers around their use in the Arabic language.

45 Sh. Bur., p. 69; Nat., pp. 67-68.
46 Nat., p. 68.
Ibn Sinā

Remarks and Admonitions

Part One: Logic
The First Method

Concerning the Purpose of Logic

Logic is intended to give the human being a canonical tool \(^1\) which, if attended to, preserves him from error in his thought.\(^2\)

I mean by “thought” here that which a human being has, at the point of resolving, \(^3\) to move from things present in his mind – conceptions or assents \(^4\) (whether scientific, based on opinion, or postulated and already admitted) – to things not present in it.\(^5\)

This movement inevitably has order and form in the elements dealt with. Such order and form may occur in a valid or an invalid manner.\(^6\)

Often the invalid manner resembles the valid one, or gives the impression that it resembles it.\(^7\)

Thus logic is a science by means of which one learns the kinds of movements from elements realized in the human mind to those

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1 Logic is a tool for determining the exactness of the sciences by means of alerting one to the principles one needs for acquiring the unknown from the known (Man., p. 5). And it is canonical in the sense that its principles are universal standards against which the conformity of the sciences to them is measured. That is why it is said that logic is a scale (Qas. Mix., in Man., p. 3) in the sense that it weighs the conformity of scientific thought to its own principles and thus determines whether this thought is exact or erroneous. In Naj., the relation of logic to thought is said to be analogous to that of grammar to language, and that of the study of meter to poetry (Naj., p. 5). That is, as grammar and meter are two bodies of rules for the determination of the accurateness of the use of language and the creation of poetry, respectively, so also is logic a body of rules for the determination of the accurateness of scientific thought.

2 مَتْ يَكُونُ الْعَلَمُ وَالْبَلَاغَةُ "al-'inān.

3 مَعْنَى اللَّغَةِ. An object is conceived if it is present in the mind without a judgment.

4 مَعْلُوْدٞ البِحْثِ. The difference between the object of مَعْلُوْدٞ and that of مَعْلُوْدٞ is that the former is in the mind free from any judgment while the latter is always accompanied by a judgment. For a discussion of مَعْلُوْدٞ and مَعْلُوْدٞ, see Harry A. Wolfson, "The Terms of تَنَئِبٞ and مَعْلُوْدٞ in Arabic Philosophy and Their Greek, Latin, and Hebrew Equivalents" in The Modern World, 33 (1943), 114-128.
The unknown corresponds to the known. Thus just as a thing may be known as a pure concept, such as our knowledge of the meaning of the word "triangle," or it may be known as a concept accompanied by assent, such as our knowledge that the angles of every triangle are equal to two right angles, so also a thing may be unknown by way of conception, so that its meaning is not conceived until one learns such [other] concepts, as "the binomial," "the disconnected" and others.

Or it may be unknown as an assent until one learns [another assent], such as that the square on the diagonal is equal to the squares of the sides of the right angle which it subtends. Thus our path of inquiry concerning the sciences and related studies is either directed toward a concept sought for realization or is directed toward an assent sought for realization.

It is customary to call the thing by means of which the sought concept is attained "an explanatory phrase," which includes definition, description, and what resembles them, and to call the thing by means of which the sought assent is attained "proof," which includes syllogism, induction, and their like.

4 That is, as free from judgment.

5 Aristotle too had spoken of these two types of knowledge. "The pre-existent knowledge required is of two kinds. In some cases admission of the fact must be assumed, in other comprehension of the meaning of the term used, and sometimes both assumptions are essential. Thus, we assume that every predicate can be either truly affirmed or truly denied of any subject, and that 'triangle' means so and so; as regards 'unit' we have to make the double assumption of the meaning of the word and the existence of the thing." (Met. Pum., I, 1, 71a, 11-15).

6 Qulal al-lah. By "qulal" is meant "any composite expression" (Naj., p. 12). But since a composite expression is any non-single one, be it a phrase -- whether complete or incomplete (a discussion of complete and incomplete phrases will follow in Chapter 7 of the present method) -- a syllogism, etc., "qulal" has, therefore, been translated variously as "phrase," "statement," "discourse," etc., depending on the context.

7 Such as example (see Sh. Maud., p. 483).

8 I.e., analogy. It must be mentioned that "and their like" is missing from the present edition. But it is found in Forges' edition (Leyden, 1892; p. 4). Since analogy is one of the types of proof (see Id., Part I, p. 365), it would be reasonable to assume that "and their like" is a part of the text.
On the basis of the explanatory phrase and the proof, one goes from what is already achieved to that which is sought. Thus there is no way to grasp an unknown object on the basis of something that is already known; furthermore, there is no way to achieve this, even given that which is already actually known, except by discerning the aspect by virtue of which the latter comes to lead to what is sought.

Chapter Four. Remark: [Concerning the logician's need for knowing the principles of the explanatory phrase and the proof]

The logician reflects on the prior principles that are appropriate for the sought objects, one by one, and on how these principles lead the inquirer to the unknown object sought. Thus the logician must do his best to know the principles of the explanatory phrase and the manner of its composition — be that in the form of a definition or otherwise; and to know the principles of proof and the manner of its composition — be that in the form of a syllogism or otherwise.

What one must first begin with are just the single elements, of which definition, syllogism and what resembles them are composed. Now let us, therefore, begin by showing how the expression signifies the concept.

Chapter Five. Remark: Concerning the expression as a sign for the concept

An expression signifies a concept [1] by correspondence — in that the expression serves as a matrix for the concept, and corresponds to it, such as "triangle" signifies "figure bounded by three sides": [2] by way of implication — in that the concept [signified] is a part of the concept to which the expression corresponds, such as "triangle" signifies "figure" — thus, "triangle" signifies "figure" not by being a name for it but by being a name for the concept of which "figure" is a part; or [1] by way of consequence and necessity — in that the expression signifies the concept by corresponding to it. And by having this concept necessarily accompanied by another concept as an external accomplishment and not as a part of it. Rather, [this other concept] is an inseparable accomplishment of it. This is how the expression "ceiling" signifies "wall" and "human being" signifies "a being having the capacity for the art of writing." 12

Chapter Six. Remark: Concerning the predicate

When we say that "figure" is a predicate for "triangle," this does not mean that the reality of the triangle is the same as that of the figure. Rather, what this means is that the thing which is called "triangle" is itself called "figure" — whether that thing is in itself a third concept, or one of the two. 13

Chapter Seven. Remark: Concerning single and composite expressions

You must know that an expression may be either single or composite. A single expression is one by the part of which, insofar as it is a part, one does not intend any signification14 at all as, for example, when you name a person "Abd al-Lâh" (the Servant of God); for when by this you signify him as such and not his attribute of being a servant of God, you do not intend [to signify] anything at all by the word "Abd" (servant). What if you named him "Isa" (Jesus)? Indeed, elsewhere you might say "Abd al-Lâh" and signify something by "Abd." "Abd al-Lâh" would be an attribute of him and not a [proper] name. [In such a case, "Abd al-Lâh"] is a composite and not a single expression. A composite expression differs from a single one and it is called "a phrase." Under the latter is included a complete phrase and an incomplete phrase. A complete phrase is one in which every part is an expression having complete signification, whether noun or verb. [The verb] is

12 Signification by correspondence and signification by implication share the quality of not signifying something external to the concept, while signification by implication and signification by concomitance share the quality of requiring the signification by correspondence (Mms., p. 15).
13 I.e., "figure" or "triangle.
14 Aj-Tusi points out that Ibn Sina "added to the ancient description of a single and composite expressions the mention of 'intention' (al-irada) to draw attention to the fact that the source of the signification of an expression is the speaker's intention" (Commentary, p. 143).
what the logicians call “a word,” i.e., that which signifies an existing concept of something which is undefined in a time which is determined as one of the three times [i.e., past, present, or future], for example, “rational animal.”

Examples of an incomplete phrase are “in the house” and “not a human being.” A part of expression such as these two is intended to have significance, but one of the two parts, such as “not” and “in,” is a particle of which there is no full comprehension unless linked to another term. Thus one who says, “Zayd [is] in” or “Zayd [is] not,” does not fully signify what one intends to signify in one’s example, unless one adds “in the house” or “not a human being.” This is so because “in” and “not” are two particles, different from nouns and verbs.

Chapter Eight. Remark: Concerning individual and universal expressions

An expression may be either individual or universal.

Text: wa’na tamān marqād (an existing concept) Our interpretation of this passage is based on a similar passage in Nat. (p. 113). There it reads: “The word [i.e., the verb] is a simple expression signifying a concept, and the time in which that concept exists—that concept being of a certain undetermined subject. An example of this is our saying, ‘walked.’ This signifies the walking in the past, of a walker who is undetermined.” In contrast to the verb which signifies both a concept and the time in which that concept exists, a noun signifies a concept alone. Ibn Sīnā is aware that here one may ask, “Are expressions such as ‘day’, ‘yesterday’, and ‘tomorrow’ words or nouns?” The answer he gives is that these are nouns. But Ibn Sīnā is also aware that one may object, saying, “But a time element is involved in such expressions, something which must render them words.” To this objection Ibn Sīnā responds as follows: “Not any word which signifies a time sequence is a term. For first a word should signify a meaning, and then a time element. For example, when you say ‘took’, the term first refers to the verb strike, and second refers to a period in time. But the word ‘today’ itself signifies a part of time. It does not first signify a meaning and then refer to a time sequence.” (Fr. Log., p. 204) — what Zabheeb translates here as “term,” we have translated as “word.”

That is, the verb is an expression which gives temporal determination to the noun which is free from such determination.

17 I.e., the complete phrase. Since the only parts of an expression that signify something by themselves are the noun and the verb, it must be the case, then, that there are two forms of a complete phrase: (1) that which consists of two nouns, such as “rational animal” — adjectives as “rational” are considered by Ibn Sīnā as nouns, and (2) that which consists of a verb and a noun, such as, “He walks.”

Text: “Zayd [is] in” or “Zayd [is] not” and “Zayd [is]”.

Chapter Nine. Remark: Concerning the essential, the concomitant accidental, and the separable accidental

Among the predicates there are the essential, the concomitant accidental, and the separable accidental. Let us begin with a definition of the essential.

You must know that among the predicates there are those that are constitutive of their subjects. By “the constitutive” I do not mean the

Text: al-muḥīṣ biḥnāna ṣawāra qa’ida muḫammada (enclosing the twelve bases of pentagons). Our interpretation of this passage is adopted from Goichon, who notes: “le dodécaèdre régulier est la seule figure ayant pour faces douze pentagones et pouvant s’inscrire dans une sphere” (Dir. Rem., p. 64, note 2).
predicate which the subject requires for the realization of its existence, such as the fact that a human being is begotten, created, or made to exist, and the fact that black is an accident. I mean a predicate which the subject requires for the realization of its quiddity, and which enters its quiddity as a part of it. Examples are "figure" for "triangle," or "corporeality" for "human being." That is why, in conceiving the body as body, we can strip creaturehood from [our conception of] it inasmuch as we conceive it as a body. But in conceiving the triangle as triangle we cannot strip figure from [our conception of] it, even though this is not a common difference. But there can be some non-constitutive concomitants that have this quality, as will be explained to you. But in this place there is a difference.

Chapter Ten. Remark: Concerning the constitutive essential

You must know that everything that has a quiddity is realized either as existing in individuals or as conceived in the mind, only inasmuch as its parts are present with it. If it has a reality other than its being in existence in one of these two modes of existence, and it is not constituted by it, then existence is a concept added to its reality — either as a concomitant [or as] a non-concomitant.

Also the causes of its existence are other than the causes of its quiddity. Humanity, for example, is in itself a certain reality and quiddity, and its existence in individuals or in the minds is not constitutive of it but is only added to it. If concrete existence were constitutive of it, it would have been impossible to represent the concept [of humanity] in the soul, free from that which is its constitutive part. And thus, it becomes impossible for the comprehension of humanity to be realized as existing in the soul. If, on the other hand, the existence of the quiddity in the mind is constitutive of the quiddity, then there is doubt as to whether or not [humanity] exists concretely. As for the human being, it is appropriate that there be no doubt concerning his existence, not by virtue of the comprehension of him, but by virtue of the perception of his parts. It is for you to find in other ideas an example of what we are trying to show.

Thus all the constitutives of the quiddity enter the quiddity in the concept, even though they do not come to mind separately; as many things known do not come to mind, but if they do, they are represented [in the soul]. The essentials of a thing, according to the acknowledgement of this place in the logic, are these constitutives. Because the primary nature in which there is no difference other than in number, such as humanity, is constitutive of the particular individual coming under it, and which the individual exceeds by his own properties [only], it is then also essential.

Chapter Eleven. Remark: Concerning the non-constitutive concomitant accidental

As for the non-constitutive concomitant, properly designated by the name "the concomitant," even though the constitutive is also a accidental part of the quiddity.

23 Text: ivd yuṣfaqar ... ilā-n-namamani 'an salt al-makhlaqiyya 'ush (we are not in need of abstaining from negating creaturehood of it).
24 That is because "creaturehood" is non-constitutive of "body."
25 Text: wa-naṣfaqar ... ilā-n-namamani 'an salt ush-shakliyya 'ush (we are in need of abstaining from negating figure of it).
26 That is, because "figure" is constitutive of "triangle."
27 Al-Ṭāi explains this by saying, "That is, it is no a difference between the essentials and all the accidentals, for some accidentals share this quality with the essential, as has already been explained. Rather it is a specific difference between the essentials and the concomitants of existence which do not necessarily accompany the essence."
28 Luṣuʿ annaḥā neswajāṭ fi al-aʿyān 'aw neswajāṭ fi al-ūddāf muqawwimin laṭā. 29 Ibn Sirāq's point here is the following: if the concrete existence is constitutive of the quiddity, then it would be impossible to represent the quiddity in the soul without its concrete existence — for you cannot eliminate any constitutive part without at the same time eliminating the quiddity. But the quiddity cannot be represented in the soul without its concrete existence. Hence, concrete existence is not a constitutive part of the quiddity.
30 The text here is not clear, but it seems that Ibn Sirāq, after having shown that concrete existence is not constitutive of the quiddity, moved on to show that existence in the mind is not constitutive of the quiddity either. For if it were, then concrete existence has to include the mental one. But that is impossible, and this is why there would then be doubt concerning concrete existence. Concrete existence, however, is not in doubt. Therefore, existence in the mind is not constitutive of the quiddity.
31 I.e., the species.
concomitant, it is that which accompanies the quiddity without being a part of it. An example of this is the triangle having its angles equal to two right angles. This and similar concomitants necessarily accompany the triangle in its proportions, but [only] after the triangle is constituted by its three sides.

If [concomitants] such as these were constitutive, the triangle and similar things would be composed of an infinite number of constitutives. / If the concomitance [of qualities] such as these were without an intermediate, they would be known as having concominance necessarily, and thus could not be eliminated from the imagination.

Even though they are non-constitutive. [But] if they have an intermediate which makes them evident, they would be known as necessary through it.

By "the intermediate" I mean that which is linked to our saying, "because it is," when it is said, "because it is such." / If this intermediate [1] is constitutive of the thing, the concomitant is not constitutive of [the intermediate] because the constitutive of the constitutive is constitutive. 32 Rather it is also a concomitant of [the intermediate].

If the intermediate requires an intermediate, there would be an infinite regress. Thus, it would not be an intermediate, but if it does not require [an intermediate], it would then be a concomitant whose concomitance is evident without an intermediate. / If the intermediate [2] is a prior concomitant, and requires the mediation of another concomitant, or constitutive, not leading to a

32 This definition of the non-constitutive concomitant together with the example given are Aristotelian. In discussing the kinds of accidents, Aristotle says, "Accident has also another meaning, i.e., all that attaches to each thing in virtue of itself but is not in its essence, as having its angles equal to two right angles attaches to the triangle. And accidents of this sort may be eternal, but no accident of the other sort is" (Met. V, 30, 1025a, 30-34).

33 The idea is that if the intermediate is constitutive of the quiddity, and if the concomitant of the quiddity is constitutive of the intermediate, then it follows that the concomitant is constitutive of the quiddity, because "the constitutive of the constitutive is constitutive." That is, if B is constitutive of A, and C is constitutive of B, then C is constitutive of A. But by definition, "the concomitant," as used here, is non-constitutive of the quiddity. Therefore, the concomitant cannot be constitutive of the intermediate if the latter is constitutive of the quiddity.

34 That is, as it is a concomitant of the quiddity.

concomitant without an intermediate, there will also be an infinite regress.

Thus there must be in every state, [logical or otherwise], a concomitant without an intermediate. And it has been shown that this kind of concomitance cannot be eliminated from the imagination. Thus, do not pay attention to him who says that whatever is non-constitutive can be eliminated from the imagination. Among the examples of that is every number's being equal to another or unequal.

Chapter Twelve. Remark: Concerning the non-concomitant accidental

As for the predicates which are neither constitutive nor concomitant, they are all the predicates which may be separated from the subject, either in a quick or in a slow manner and either with facility or with difficulty. Examples of this are for a human being to be youthful or old, standing or sitting. 35

Chapter Thirteen. Remark: [Concerning the accidental]

Since the constitutive is called "essential," that which is not constitutive, be it concomitant or separable, may then be called "accidental," including that which is called "an accident." 36 This we will discuss later.

Chapter Fourteen. Remark: Concerning the essential in another sense

In a place other than this in logic, "essential" may be used in another sense, i.e., to refer to the predicate which attaches to the subject due to


36 "Youthful" and "old" are examples of attributes that separate from the subject slowly: while "standing" and "sitting" are examples of attributes that separate from the subject quickly. All of these are also examples of attributes that separate from the subject with facility. As for those attributes that separate from the subject with difficulty, they are exemplified in "sensitivity," whose separation is also slow; and in "toothache," whose separation is also quick.

37 I.e., the common accident. But the accidental, to be caused, covers more than that; it covers every non-constitutive quality, i.e., property -- be that concomitant, such as "the capacity of laughter" for "human being," or separable, such as "writing" for "human being," and the common accident -- be that concomitant, such as "black" for "the black human being," which he shares with "crow," or separable, such as "black" for "the desk." In other words, the accidental covers every non-essential concomitant and every separable quality.
the subject's substance and quiddity. / Examples of this are proportion and equality which belong to measurements or their genus. / evenness and oddness which belong to number, and health and disease which belong to animal. This sort of essentials is properly called “essential accidents.” The example given of this is something like snubness for the nose. It is also possible to give the essential a description combining both aspects. / 

That which is opposite these essentials attaches to a thing because of something external to it which is either more general than that thing, as movement attaches to a white object. For movement attaches to that object because that object is a body, and ["body"] is a more general concept than “white object.” Or it is more particular than [that thing], / as movement attaches to the existent. For movement attaches to it only because the existent is a body, and ["body"] is a more particular concept than “the existent”: and also as “laughter” attaches to “animal.” For “laughter” attaches to “animal” only because he is a human being. 

Chapter Fifteen. Remark: Concerning that which is stated as the answer to the question, “What is it?” 

When [the views] of the logicians who adhere to the apparent meaning are examined, they are found hardly to distinguish between the essential and that which is stated as the answer to the question “What is it?” / If someone of them desires to distinguish between the two, what he says boils down to the following that which is stated as the answer to the question. “What is it?” is that which, in spite of which is constitutive, and that which attaches to the subject because of the subject's substance and quiddity. / And “human being” is a more particular concept than “animal.”

41 The identity of these logicians is not made clear. But the error that Ibn Sinâ accuses them of lies in considering the genus as the answer to the question. “What is it?” when the genus, as we will soon learn, like any other essential, is a part of the quiddity which alone is stated as the answer to the question “What is it?” “Animal,” which is a genus for David and Paul, cannot tell you what David and Paul are. But like “rational,” it is constitutive of their nature, and is hence an element of their quiddity. Thus to the question. “What is David?” or “What is Paul?” the answer is “He is a rational animal.” That is the same as saying. “He is a human being.” and not “He is an animal.”

42 i.e., the genus. In other words, the way these logicians may defend their view against the above-mentioned charge is to say that, even though, according to our view, that which is stated as the answer to the question, “What is it?” is an essential, yet it is to be differentiated from other essentials, in that it is the more general essential, since it is the genus.

43 The above-mentioned response that these logicians may give is not acceptable to Ibn Sinâ. For, according to him, it does not succeed in distinguishing which is stated as the answer to the question, “What is it?” from every other essential. He points out that the generic differences such as “that which is sensible” and “that which moves voluntarily” are also more general for the human individual, for example, since they are equivalent to his genus “animal.” To say “that which is sensible” or “that which moves voluntarily” is to say “animal,” and to say “animal” is to say each of these expressions. But in spite of their being more general, the generic differences are not general. Thus for these logicians, to describe that which is stated as the answer to the question, “What is it?” as the more general essential does not help them destroy the charge that they do not distinguish that which is stated as the answer to this question from every other essential.

In the following chapter we will see Ibn Sinâ dividing that which is stated as the answer to the question, “What is it?” into three types, one of them being the genus. How is this, then, to be reconciled with his vehement attack on these logicians for considering the genus as that which is stated as the answer to this question?

The genus that Ibn Sinâ refuses to accept as the answer to the question, “What is it?” is that which is a part of the quiddity, as “animal” is a part of “human being.” But the genus that he considers fit to answer this question is that which is the quiddity itself, as “animal” is the quiddity of various species falling under it. In other words, it is the genus which is the common quiddity, and not that which is a part of the specific quiddity, that can tell us what a thing is.

44 Al-dakhkhâl fi jawah rîd huwa.

45 Al-makbul fi tarîq rîd huwa.
than that which enters the answer or that which falls on the way to it.44

You must know that, in accordance with the requirements of every language, the question of him who asks “What is it?” corresponds to “What is its essence?” or “What is the comprehension of its name?”

A thing is what it is only by virtue of the unica of what it has in common with other things and what is proper to it.89 such that its essence which is sought in this question is realized. As for the more general [essential], it is neither the identity of a thing nor the comprehension of its corresponding name.

They may say “We are using this expression”90 is another technical sense. But then they must indicate this new sense, referring [to the use of] the Ancients and pointing out [the use they have agreed on] in their transposition, as it is their custom to do.

You will soon know that it is beneficial for them to dispense with the apparent meaning of the technical language.

Chapter Sixteen. Remark: Concerning the various types of that which is stated as the answer to the question, “What is it?”

You must know that the types of [answer] which indicate what a thing is, without change in the comprehension of the technical use, are three. / 179

The first [indicates] absolute particularity, as the definition of name indicates the quiddity, such as “rational animal” indicates “human being.” 49

44 That which is stated as the answer to the question, “What is it?” is, as we have already seen, the quiddity. As for that which enters this answer, or that which is stated on the way to this answer, it is any essential (see Nat., p. 7), as “rational” or “animal” is in relation to “human being.”

49 The quiddity referred to here is the specific quiddity.

49 I.e., that which is stated as the answer to the question, “What is it?”

49 He who asks about what a thing is, asks about the quiddity. But if you do not answer him by the quiddity, you can answer him by the definition since “the definition is a phrase signifying the quiddity of a thing” (Stb., Part I, p. 204). And since the definition differentiates the species from all others under the same genus, it is said to give “absolute particularity” in the sense that the defined is more specific than the genus.

Sometimes Ibn Sina also says that one can answer the question, “What is it?” by the name. That is because the name, too, corresponds to the quiddity, and is hence said

The second type [indicates] absolute community, as does the required answer in the question, “What is the group of different beings?” which consists of, for example, a horse; an ox, and a human being? There, it is not necessary and not good to answer anything but “animal.” 80 As for that which is more general than “animal,” such as “body,” it is not a common quiddity for them but is a part of a common quiddity. / “Human being,” “horse,” and the like are, on the other hand, of a more particular signification than that which is embraced in that quiddity. 99

If we assume that that which is sensible and that which voluntarily moves by nature share in being constitutives of and equivalent to that totality, 102 still they do not indicate the quiddity. / This is so because the comprehension of “that which is sensible,” “that which voluntarily moves [by nature],” and that which resembles them by way of correspondence, [indicates] a thing having the power to sense or the power to move. Similarly the comprehension of “that which is white” [indicates] a thing having whiteness. As for what those things are, that does not enter in the comprehension of these expressions except by way of concomitance, as when outside knowledge indicates that none of these things can be other than a body.

When we say, “Such an expression indicates such a thing,” we are only referring by that to the manner of correspondence or implication, and not to the manner of concomitance. 103 How [could this be otherwise], when that which is indicated by way of concomitance is indefinite? / Further, if that which is indicated is considered such by way of concomitance, then that which is non-constitutive could properly be said to indicate what a thing is. “That which laughs,” for example, would then by way of concomitance...
remains himself. But this is not how humanity is related to him. nor how animality is related to humanity and horsemanship. 13

This is so because the formation of the animal which is made into a human being is either completed by means of that which makes him into a human being, in which case he becomes a human being; or it is not completed, in which case he does not become either that animal or that human being.

The previously-mentioned assumption would not be possible if [animal] were not accompanied by qualities that make him a human being, 14 but were accompanied by their contraries or / qualities other than they. 15 He would then be formed into an animal which is not a human being, such as a horse. [yet would remain] that [animal] in himself. 16 Rather, what makes him into an animal is only that which is prior to him and which makes him into a human being.

If he were [considered] under an aspect other than this, he would then, be judged in a manner other than this. But that is not the concern of the logician. 17

13 That is, a human individual can be white or black, but that does not affect what he is, i.e., he remains a human being. But if you were to substitute “humanity” in him for something else, such as “horsemanship,” he would cease to be himself. “Animality” stands to “humanity” and “horsemanship,” as “humanity” stands to human individuals. You can substitute “humanity” in an individual animal for “horsemanship,” yet he remains an animal. But you cannot substitute “animality” in him for something like “plantness” without changing the nature of that individual animal.

14 I.e., “rationality.”

15 Such as “braying,” “prowling,” or “mooing.”

16 Which is to say that his common quiddity remains the same.

17 That is, if an individual is taken under the aspect of what is accidental, then that individual would not be considered in the same manner as any other member of his quiddity. But it is the quiddity itself and not the accidental that the logician must concern himself with.
The Second Method

ON THE FIVE SIMPLE TERMS.¹
THE DEFINITION AND THE DESCRIPTION

Chapter One. Remark: Concerning the arrangement of genus and species

The genera may be arranged in an ascending order, and the species may be arranged in a descending order: [Each] order must be finite.²

As for [the questions], “With what concepts, to which ‘generically’ and ‘specificity’ apply, does the ascending and the descending orders [respectively] end?” and “What are the intermediates between the two extremities?” they are not for the logician to determine.³ If he makes an effort in that direction, he would be exceeding the limits of his task. Rather, he must only know that there is a sumnum genus or summa genera that are the genera of genera, infima species that are the species of species, and intermediates that are genera for what is inferior to them and species for what is superior to them, and that every one of them has, in its order, [certain] characteristics.

As for investigating the quantity of the genera of genera and their quiddities to the exclusion of the intermediates and the inferior ones – as if that is important, and this is unimportant – it is going beyond what is necessary, and often inspires minds to go astray from the right path.

Chapter Three. Remark: Concerning the difference

As for the essential which is not properly stated as the answer to the question, “What is it?” of a multiplicity, in relation to which it is a universal,⁴ there is no doubt that it is appropriate for making an essential distinction between this multiplicity and that which shares

¹ I.e., the five predicables.
² Such as “human being,” “horse,” and “dog.” These realities differ in kind in addition to differing in number, and fall under the same genus or universal “animal.”
³ Such as John, George, and Mary. These are different only in number; their kind “human being” is the same.
⁴ I.e., where it is in itself, and where it is in relation to that which is superior to it. The former is referred to as “real species,” and the latter as “relative species.”
⁵ Text: or (fork another variation is wo (and)).
⁶ This idea and the reason for it had already been presented by Aristotle. “But it has been shown that in these substantial predications neither the ascending predicates nor the descending subjects form an infinite series: e.g., neither the series, man is biped, biped is animal, etc., nor the series predicating animal of man, man of Callias, Callias of a further subject as an element of its essential nature, is infinite. For each such substance is definable and an infinite series cannot be traversed in thought; consequently neither the ascent nor the descent is infinite since a substance whose predicates were infinite would not be definable” (Met., Post. 1, 22, 83b, 2-8).
⁷ For these are questions of metaphysics.
⁸ Text: al-lalit kulliyatu tashu (whose universality). The pronominal suffix -ahu must here refer to adh-shir, “the essential,” which is masculine, not to al-kahr, “the multiplicity,” which is feminine. An overtly literal rendering might be “in relation to which is its universality.”
with it existence, or a certain genus.\textsuperscript{18} / That is why this essential is properly stated as the answer to the question, "Which thing is it?"\textsuperscript{11} For [by the question], "Which thing is it?" one only seeks an absolute distinction between [a thing] and others sharing in its concept.\textsuperscript{12} This [essential] is what is called "difference." / 

This may be [1] a difference for the infima species, such as "rational" for "human being." Or [2] it may be [a difference] for the intermediate species – hence, a difference for the genus of an infima species. An example of this is "sensible" as a difference for "animal," and a difference for the genus of "human being," and not a genus for "human being" – even though it is an essential which is more general with respect to "human being." 

From this it must be learned, therefore, that not every essential which is more general is a genus, nor is it stated as the answer to the question, "What is it?"\textsuperscript{13} Every difference is constitutive with respect to the species of which it is a difference, and divisive with respect to the genus of that species.\textsuperscript{14} 

\textsuperscript{18} That is, every essential is either stated as the answer to the question, "What is it?" or it is not. The second category distinguishes a thing from other things in existence, or it distinguishes it from other things under the same genus. 

An example of that which distinguishes a thing from other things in existence is "that which moves voluntarily" for "animal." This distinguishes "animal" from everything else in existence. Even though the angels and God are said to have volition and the plants are said to move, neither the angels nor God can more since they are supposed to be fully actual for an elaboration on this point, see my Ph.D. dissertation, "An Examination of Ibn Sina's Solution for the Problem of Evil," p. 163, nor can the plants have volition. It remains that only animals are endowed with a voluntary movement. 

An example of that which distinguishes a thing from other things under the same genus is "rational" for "human being." "Rational" distinguishes "human being" from any other being under the same genus "animal." But "rational" cannot distinguish "human being" from everything which falls outside the same genus, for the angels and God are also said to be rational. 

\textsuperscript{11} Ay shay' huwa. 

\textsuperscript{12} An al-mushahidat il ma'ad ash-shay' lyuwa. 

\textsuperscript{13} This is a reminder that the logician's view concerning that which is stated as the answer to the question, "What is it?" mentioned earlier (p. 175-176), namely that the answer to this question is given by the general essential, is not sound. 

\textsuperscript{14} The difference plays two roles: with respect to the species, of which it is a difference, it is an essential part, and with respect to the genus, under which this species falls, it is a dividing factor. "Rational" which is a difference for "human being" is an essential part of "human being," but it distinguishes "human being" from other animal species, and hence it differentiates the genus into separate realities. 

\textsuperscript{15} Property and the common accident are therefore to be distinguished from the difference, species and genus in that while the latter three are essential, the former are accidental, but it must be remembered that all five share the quality of being universal. 

\textsuperscript{16} (1) In contrast to the difference, which is a constitutive concomitant, property is a non-constitutive concomitant. That is why it is among the accidentals. 

\textsuperscript{17} (2) Property is a universal whose subject is also universal, be it a species or a genus. An example of a property which has a species for its subject is "the capacity to laugh" for "human being." And an example of a property which has a genus for its subject is "having three angles equal to two right angles" for "triangle" (Fig., p. 17). 

\textsuperscript{18} Property in the real sense belongs to one subject only. If it can be shown, for example, that "the capacity to laugh" is not limited to "human being" but extends to all other animals, then "the capacity to laugh" would no longer be a property for "human being" but a property for "animal." 

\textsuperscript{19} Property belongs either to all the members of its subject or only to some. An example of the former is "the capacity to laugh" for "human being." This property is "concomitant and equivalent" (Fig., p. 17). That is to say, the concept, "human being," is always accompanied by "the capacity to laugh," not as a constitutive part of it but as an external accompaniment which necessarily attaches to this concept after this concept had already been constituted. And its equivalent, in the sense that whoever you say, "human being," you say, "having the capacity to laugh," and vice versa. There cannot be one human being who does not have this capacity. And an example of the latter is "passevity" or "writing" for "human being." 

\textsuperscript{20} (1) Like property, the common accident is non-constitutive. 

\textsuperscript{21} (2) And again like property, the common accident is a universal whose subject is also a universal. 

\textsuperscript{22} (3) But in contrast to property, which belongs to one universal only, the common accident always belongs to more than one universal; hence its adjective is "the common." 

\textsuperscript{23} (4) The common accident is either common to all the members of its subject or only to some (we are to understand "common" in the expression "common
The best properties are those which are common to the species, belong to it and are inseparable concomitants of it. And the most useful ones in the identification of a thing are those whose existence is evident. Examples of property are "the capacity to laugh" for "human being," and "equality of angles to two right angles" for "triangle." An example of the common accident is "white" for "white being." Sometimes this is called "accident" without restriction, "common" being deleted from it.

The late logicians believe that this accident is the accident which is the opposite of substance. But this accident is not of that kind at all. Rather, the meaning of this "accident" is the accidental.

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199 A thing may be a property in relation to a universal, and a common accident in relation to that which is more particular than (that universal). Thus "walking" and "eating" are among the properties for "animal" and among the common accidents for "human being."

Chapter Five. Admonition

These five terms, i.e., the genus, species, difference, property and the common accident, all share in being predicated, in name and in definition, of the particulars that fall under them.

201 Chapter Six. Remark: Concerning the descriptions of the five [terms]

The genus is described as a universal predicated of things having different realities, in answer to the question, "What is it?"

The difference is described as a universal predicated of a thing, in answer to the question, "Which thing is it in its substance?"

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203 goes beyond the accident which is opposite the substance. Yet both are called "accident." In the present text, Ibn Sina wishes to draw attention to the point that, in spite of this community in name, there is the difference in meaning, indicated above.

However, it is difficult to make any sense out of this. How could any common accident be a substance? When, in the first place, the common accident is said to be non-essential? Ibn Sina's response is this: a common accident can be taken generally or it can be taken specifically. But whether taken generally or specifically is a relative matter. When you say, "the white human being," you are taking "the white" in a general sense; for here it can apply to many other beings, such as "snow" and "swan." As such, "the white" is, according to Ibn Sina, a substance because it can contain many things. But when you say, "The human being is white," you are taking "white" in a specific sense, for here it is understood to be a specific quality of "human being." As such, "white" is contained in the substance "human being" which contains many other qualities such as "height" and "weight." (Sh. Mad., p. 106). Compare this with the following passage from Porphyry: "Yet, in one way accidents contain because they exist in many things, while in another they are contained because the substrata are not receptive of one accident but of many." (Porphyry, Isagoge, pp. 39-50).

The relative species, i.e., the intermediate one which is a species in relation to that which is superior to it is not one of these predicables. For inasmuch as it is such, it is not predicated of anything. It is the real species, i.e., the infima species which is a species in itself, that counts as one of the predicables (this is made clear in the following chapter).

"In its substance" is added to distinguish difference from property. For property, too, is a universal, stated as the answer to the question, "Which thing is it?" (Naj., p. 10). But while difference is a constitutive element, property is not.
The species is described in one of two senses: [First, it is described] as a universal predicated of things not differing, except numerically, in answer to the question, “What is it?” And in the second sense, it is described as a universal of which the genus is predicated as well as of other things, in an essential and primary manner. Property is described as a universal, stated in a non-essential manner, of that which falls under one reality only. And the common accident is described as a universal, stated in a non-essential manner of that which falls under one reality and of others.

Chapter Seven. Remark: Concerning definition

The definition is a phrase signifying the quiddity of a thing. And there is no doubt that it includes all the constitutives of a thing. It is impossible for the definition not to be composed of the genus and the difference of a thing, because the common constitutives [of a thing] are its genus and [its] proper constitutive is its difference. Unless that which is common and that which is proper unites in a composite, the composite reality of a thing is not complete. And unless a thing has a composite reality, it is not possible for an expression to signify that thing’s reality. For every definable is composite in concept.

It must be known that the purpose of the definition is not to give a distinction in just any manner, nor conditioned also by being one of the essentials, without further consideration; but to give a conception of the essence, as it is.  

24 This is the real or infima species which is predicated of the particulars subsumed under it, and is hence one of the five predicables.

25 This is the relative or intermediate species which is not predicated of anything, but that which is superior to it is predicated of it and of other species. By “in ... a primary manner” is meant that that which is superior to it is predicated of it without mediation, an “animal” is predicated of “human.” This is to be contrasted with “animal” as predicated of “John.” The latter type of predication requires the mediation of “human being.” It is because John is a human being that he is an animal.

26 This is the Aristotelian definition of definition. “Definition” is said to be the statement of a thing’s nature. The definition is a statement that makes a distinction, but not just any kind of distinction. None of the accidentals that distinguish a being from some other beings in some manner are mentioned in the definition, nor is it sufficient for giving a complete definition, to mention only the difference or differences which distinguish a thing essentially from other things under the same genus. One cannot define “human being,” for example, by saying “He is rational.” For “human being” is an animal before he is rational. “Animal,” the genus, must, therefore, be mentioned in addition to “rational,” the difference, in order for the definition to be complete.

Thus the definition distinguishes the concept of a thing from any other concept, by presenting it with nothing more and nothing less than it contains, i.e., its constitutives. Since the accidentals are external to the concept of a thing, they cannot be included in the definition. And since the difference is the proper constitutive of a thing and the genus the totality of its common constitutives, neither of them can be eliminated from the definition.

27 Text: mo'dis u fuburber.

28 The preceding view is the definition of some logicians (Naj., p. 79). In what follows, Ibn Sina tries to show that it is a mistake to assume that the definition is necessarily a brief phrase that cannot be expressed except in one form, and that this phrase cannot be abridged or prolonged. But with the other points mentioned, he has no quarrel, namely that the definition must retain the order of the constitutives and that it is completed by adding the differences to the genus.
conceive the essence of a thing as it is. [Even though] that is also followed by [the essential] distinction.

If intentionally, negligently or forgetfully one substitutes the definition of the genus for its name, we would not claim that one ceases to be define – expressing astonishment at its act of prolonging the definition.36

Thus neither does that kind of brevity deserve much praise, nor does that kind of prolonging deserve much blame – if the necessary union and arrangement [of constitutives] are preserved in the definition.37 /

209 Often one benefits from an addition in the descriptions, which is over and above that which is sufficient for the distinction. You will soon learn about descriptions.

He who says that the definition is a brief phrase [stating] such and such, refers to a phrase that] implicitly involves an explication of an unknown relative thing, because a brief phrase is indefinite. [A phrase] may be brief in relation to one thing, and long in relation to another. The use of a phrase such as the above in the definitions of non-relative things is an error they have committed in their books. This they must, therefore, remember.

Chapter Nine. Remark: Concerning description

When a thing is identified by a phrase composed of the union of that thing’s accidents and properties whose totality belongs to it, then that thing is identified by its description.38 /

211 The best description is that in which the genus is placed first, for the purpose of determining the essence of a thing.39 An example of this is saying of the human being, "He is an animal that walks on two feet, with broad nails and capable of laughter by nature"; and saying of the triangle, "It is a figure that has three angles." /

212 Descriptions must be of evident properties and accidents of a thing. Thus he who identifies the triangle by saying, "It is a figure whose angles are equal to two right angles." does not give a description, except for geometricians.

213 Chapter Ten. Remark: Concerning the types of errors that occur in the identification of things by definition and description

If [these errors] are known, they have an intrinsic benefit; and they indicate [other] forms that they have in other [identifications]. It is abominable and absurd to use metaphorical, figurative and uncouth strange expressions in definitions. Rather, the expressions used in definitions must have an ordinary stipulation.40 If it happens that one does not find an ordinary appropriate expression for a concept, let one then coin for that concept an expression which is most appropriate, indicate that which is intended by it and then use it in [the definition]. /

215 Those who identify may be negligent in their identification.41

1. Sometimes they identify a thing by that which is similar to it [in the degree of its being] known or unknown, as when one identifies the even as "a number which is not odd."

2. Sometimes they go beyond that and identify a thing by that which is less known than it, as some say, "Fire is the element that resembles the soul." But the soul is more concealed than fire.

36 I.e., mentioning only one difference in the definition of a thing whose differences exceed one in number. Recall what was stated earlier (p. 207), that the definition which indicates the essence or reality of a thing must include all the differences. On the other hand, mention of one difference suffices for the definition whose purpose is to bring out the essential distinction only. The same idea is repeated here in order to show that while some definitions can be described as brief statements, others cannot be so described.


38 That is, if you were to say, for example, “Human being is a rational animal,” or "Human being is a rational ensouled body," you would be saying the same thing. Any definition is good if the union of the proper and common constitutives is preserved as well as the proper order of these constitutives.

39 In a complete description, as in a complete definition, the genus must also be mentioned. If you were to mention properties and accidents without the genus, you would still have given a description but an incomplete one (Cus. Met., pp. 17-18).

40 For after all, every definition, like every description, is an identification of a thing which is somewhat unknown (Mans., p. 42). To include in it terminology which is also unknown is to defeat the purpose of the identification. You cannot make an unknown known by means of another unknown.

41 What follows is a list of errors that are related to the concepts employed in identification. These errors are to be differentiated from the error mentioned above which is related solely to the terminology in the identification.
[3] Sometimes they go further than that, and identify a thing by itself. Thus they say, “Movement is transference,” and “Human being is the human animal.”

[4] And sometimes they go further than that still: and identify a thing by that which cannot be identified except by that thing, either explicitly or implicitly. Regarding the explicit case, it is exemplified in the statement, “Quality is that by means of which similitude and its opposite occur.” But they cannot identify “similitude” except by [saying] that it is agreement in quality. Thus similitude is different from equality and proportion only in that it is an agreement in quality and not in quantity, species or anything else. / As for the implicit case, it is such that the analysis of the identifiability of that by means of which a thing is identified ends with the former as being identified by that thing, even though that is not [apparent] at the beginning of [the analysis]. An example of this is when, to start with, one says, “Two is a first even number.” Then one defines an even number as “That which is divisible into two equal parts.” After that one defines the two equal parts as “Two things, each of which is congruent with the other.” And finally one defines the two things as “being two.” It is impossible not to use the expression of duality in the definition of the two things, inasmuch as they are two things.

[5] Those who identify may be negligent [in another way]. Thus, they repeat a thing in the definition where there is no need or necessity for it – I mean the necessity found in the definition of some composites and relatives, as is known from another place. An example of this error is to say, “Number is a plurality, formed of a group of units.” when that which is formed of a group of units is a plurality itself. Another example is to say, “Human being is a rational corporeal animal.” But “body” is included in the definition of “animal.” For it is said [Animal] is an ensouled body, sensible and moves voluntarily. Thus [one who says the above] is being repetitive. / These two examples may be parallel to some of that which has already preceded concerning which a remark has been made – but the consideration is different.‡

‡ Text: al-ka’fiyya (quality).
§ Text: yu’dhulu al-dhikar mashallaha (is congruent with the other for instance). “For instance” has been deleted, since it adds nothing.
¶ This seems to be a reference to (3). In both cases there is repetition. But while in

CHAPTER 11

You must know that those who identify a thing by that which is not identified except by that thing are in the same class as those who repeat the defined in the definition.‡

[This belief is due to] the ignorance of the difference between that which [is such that] a thing cannot be known except simultaneously with it, and that which a thing cannot be known except by it. For it is impossible for that which [is such that] a thing cannot be known except simultaneously with it not to be known where the thing is unknown, and known where the thing is known. As for that which [is such that] a thing cannot be known except by it, it must be known before the thing [is known], and not simultaneously with it. / It is abominable and absurd that a human being who does not know what a son is and what a father is and who asks, “What is a father?” is answered, “It is he who has a son.” He, then, says, “Had I known what a son is, I would not have needed to inquire about what a father is, since knowledge about both is simultaneous.” This is not the way [to answer this question]. Rather, a kind of a more sensitive [answer] is saying something like “A father is an animal who from his semen begets another of the same species, inasmuch as he is such.”

For there is nothing in any part of this explication which is explicated by “son” or which has reference to it.

(3) the repetition is of the defined, the repetition here is of an element already implicit in an essential part.
‡ (4) i.e., is in the same category as (5) and (3) in that something in it is repeated. In (4) as in (3) the defined is repeated. But the difference between the two is that while in the latter the defined is immediately thrown back at you, in the former the presentation of the defined is mediated either by one step, i.e., in the explicit case, or by a number of steps, i.e., in the implicit case.
¶ This is the delusion of some, which is another error committed in identification. But one would expect to have it listed in the previous chapter. In Mat. (p. 88), this error is not given a separate treatment.
Do not pay attention to what the author of the *hasagge* says in the chapter in which he describes the genus in terms of the species. This we have already discussed in ast-Shifta'.

This is what we have wished [to show] by the remark concerning the identification of the composition leading to the concept. We will now move to identify the composition leading to the assertion.

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The Third Method

ON ASSERTIVE COMPOSITION

Chapter One. Remark: Concerning the types of propositions

This type of composition which we have determined to mention [next] is the composition which yields an assertion, and which is one whose utterer is called "truthful" in what he says, or "a liar." As for the utterer of something like interrogation, request, wish, aspiration, wonder, etc., he is not called "truthful" in uttering such expressions, or "a liar," i.e., inasmuch as they express an assertion.

The types of assertive composition are three:

1. The first is that which is called "predicative." In this type, a judgment is made that an idea is predicated of another, or that it is not. Examples of this are the statements, "Human being is an animal," and "Human being is not an animal," "Human being" and the like, in what resembles this example. is what is called "subject," and that which resembles "animal" here is what is called "predicate."

2. As for "not," it is a negative particle.

3. The second and the third types are called "conditional." A conditional proposition is composed of two assertions, each of which has been brought out of its assertive state to another. The two are then joined, not in a manner [where it could be] said that one is the other as in predicative propositions, but [either] in a manner [where it

1 *al-marktib akh-khabiri* (informative composition). "Khabari" here is the subject form of "khabar" in the sense of "proposition" (see, for example, *Naj.,* p. 12, where "khabar" and "khabari" [proposition] are used synonymously), and not in the sense of "predicate" of a grammatical subject.

2 As when the teacher, for example, says, "Turn to page 99." While the primary function of this expression is an order, this expression nevertheless makes an assertion, as the teacher said, "I want you to turn to page 99." This assertion is, however, secondary to this order. The same is true of interrogation, etc. But the case of assertive expressions is different: their primary function is to make an assertion (*Man.*, p. 16).

3 *al-bardi,* i.e., the categorical proposition: "A is B," or "A is not B."
could be said] that one necessarily follows from the other or attaches to it [without necessity]—this is called "connective conditional"\(^5\) or "assumptive proposition"\(^4\) or in a manner [where it could be said] that one is in conflict with and separate from the other—is called "disjunctive conditional."\(^7\)

An example of the connective conditional is the statement, "If a line falls on two parallel lines, then the exterior angle is equal to the corresponding interior one." Were it not for "if" and "then,"\(^8\) each of the two phrases would have been an assertion by itself.

An example of the disjunctive conditional is the statement, "Either this angle is acute, or it is obtuse, or it is right." If "either" and "or" are eliminated, these phrases would be more than one proposition.

226 Chapter Two. Remark: Concerning affirmation and negation

A predicative affirmation is something like the statement, "Human being is an animal." The meaning of this is that the thing which we

\(^4\) Text: wa (and). Since this type of conditional will be divided into two types (sh., Part I, p. 227)—one in which the consequent follows from the antecedent by necessity, and one in which the consequent accompanies the antecedent by chance—reading "or" instead of "and" seems more appropriate, unless a longer expression is added in brackets.

\(^5\) Ash-sharīḥ al-munāsid. This is the hypothetical proposition.

\(^6\) Al-waqīyāt.

\(^7\) Ash-sharīḥ al-munāsid. The modern reader may find it odd to name this kind of proposition "conditional." Ibn Sīnā, too, recognizes that according to the Arabic language "conditional" is the name given to the if-then statements, since these statements contain a posed condition accompanied by a response (Man., p. 56). Ibn Sīnā explains why a disjunctive must be called a conditional first by explaining what a conditional is and then by showing that the disjunctive is basically a conditional. It is as if Ibn Sīnā says, what is intended by "conditional" is any discourse consisting of more than one proposition which have lost their character of being propositions and which were turned into parts of a proposition. This is, of course, true of propositions like "if the sun is out, then it is day." "The sun is out" and "It is day" are two separate propositions. But when "if" is attached to the former and "then" to the latter, they cease being separate propositions and instead become elements of one proposition. Similarly, when you say, "Neither this number is even or it is odd," you have made one proposition whose parts. "This number is even" and "It is odd," would be separate propositions were it not for the attachment of "either" to the former and "or" to the latter (Man., p. 61).

\(^8\) Kūsūr: (wa. The reason for rendering kūsūr as "then" is because it represents or is the beginning of the jawhah (apostasis). as "if" would be in some other cases. It is appropriate, therefore, to render "kūsūr" as "then."
Chapter Three. Remark: Concerning singularity, indefiniteness\textsuperscript{12} and definiteness\textsuperscript{13}

If a proposition is predicative, and its subject is a particular thing, it is called “singular” whether affirmative or negative. Examples of this are, “Zayd is a writer,” and “Zayd is not a writer.”

If the subject of a predicative proposition is universal but the quantity – I mean, the universality or particularity – of the judgment is not revealed but is indefinite such that there is no indication concerning whether or not it is common to all that which is subsumed under the subject, the proposition is called “indefinite.” Examples of this are, “Human being is at loss,” and “Human being is not at loss.”

If the introduction of “of” (the) necessitates generality and community, and the introduction of “at-tarwín (numeration) necessitates particularity, then there is no indefinite proposition in the Arabic language\textsuperscript{14} and must be searched for in another language. As for [the determination of] the truth of this matter, it is left for the discipline of grammar, which we do not confuse with other disciplines. If the subject of a predicative proposition is universal and the extension of the judgment concerning it and the quantity of the subject are revealed, then the proposition is called “definite.” / If it is evident that the judgment is general, the proposition is called “universal.” This is either affirmative, such as “Every human being is an animal,” or it is negative, such as “No human being is a stone.” If it is evident that the judgment is about some and does not extend to the rest, or that it extends to the rest in an indirect manner, then the definite proposition is “particular.” It is either affirmative, such as “Some human beings are writers,” or negative, such as “Some human beings are not writers,” or “Every human being is not a writer.” The meaning of the [last] two propositions is one. They are not general in negation.

Chapter Four. Remark: Concerning the judgment of the indefinite proposition

You must know that the indefinite proposition does not necessitate generalization. This is because in it there is mention of a nature which can be either properly taken universally or properly taken particularly. Taking it purely [i.e., by itself], without linkage to a quantity indicator does not necessarily make it universal. If that were necessarily to impose universality and generality on it, then the nature of “human being” would have necessarily been general – and

\textsuperscript{12} “At-ilhaddi” literally, negligence, i.e., negligence of the determination of the quantity of the judgment.

\textsuperscript{13} “At-bayn” literally, limitation, a reference to the determination of the quantity of the judgment.

\textsuperscript{14} In the Arabic language, one of the uses of at, as Ibn Sīnā will point out soon, is three-fold, one of which is to indicate universality. Numination, on the other hand, indicates particularity. Hence, if the above-mentioned use were the only one that of has, there would be no room for indefinite expression in the Arabic language.

\textsuperscript{15} “Nature” is used here in the sense of “essence” or “quiddity.”

\textsuperscript{16} In English it is more appropriate to say, “Human being is common, and is a species.” But since Ibn Sīnā’s purpose here is to point out the different uses of “the” in the Arabic language, the statement was left in its Arabic form. The same procedure is followed in the first statement of the following example.

\textsuperscript{17} Thus, “the” is used in Arabic in three senses: (1) as a universal quantifier; (2) as an indicator of indefiniteness when the purpose is to refer to a nature without any reference to the quantity; and (3) as demonstrative pronoun, to refer to something that has already been mentioned, or to something that is already known, thus rendering the proposition singular.

\textsuperscript{18} “Saras” literally, fence, or that which draws a limit.
thus an individual would not be a human being. But since it can be properly taken universally, and there, it can also be applicable particularly; for that which is predicated of all is predicated of some—the same being true of [that which is predicated] negatively—and [since] it can be properly taken particularly, then in the two cases its judgment is applicable particularly. Thus the indefinite proposition is of the same force as that of the particular one.

But the fact that a proposition is explicitly applicable particularly does not prevent it from being at the same time applicable universally.

234 / For if a judgment is made about some, it does not follow from this that the rest is the opposite. Thus even though the indefinite proposition is explicitly of the same force as a particular one, there is nothing to prevent it from being applicable universally.

235 Chapter Five. Remark: Concerning the definiteness and indefiniteness of conditional propositions

In conditional propositions, there may also be indefiniteness and definiteness. Thus if you say “Whenever the sun is out, then it is day,” or “Always this number is even, or it is odd,” then you have given affirmative universal definiteness. And if you say “It is never the case that if the sun is out, then it is night;” or “It is never the case that either the sun is out, or it is day,” then you have given negative universal definiteness.

If you say “Sometimes, when the sun is out, the sky is cloudy,” or “Sometimes, Zayed is in the house, or ‘Amr is in the house,” then you have given affirmative particular definiteness. And if you say, “It is not the case that whenever the sun is out, then the sky is cloudy;” or “It is always the case that either fever is choleric, or it is inflammatory,” then you have given negative particular definiteness.

236 In Duseh’s edition, the text for this chapter ends here. But in Forger’s edition, the text goes on to give two examples of definite negative particular conditionals. We have accepted Forger’s version since this would complete the list of examples of the four types of definite conditionals: affirmative universal, negative universal, affirmative particular and negative particular.

237 Suṣaṭṭoṣoṇa.

238 Chapter Six. Remark: Concerning the composition of conditional propositions from predicative ones

You must know that all conditional propositions are analyzed into predicative ones, and are not directly analyzed into simple parts. As for the predicative propositions, they are those that are directly analyzed into simple parts, or into that which is of the same force as the simple.22

The two parts of the predicative propositions are either simple, such as in the statement, “The human being walks,” or of the same force as the simple, such as in the statement “The mortal rational animal walks,” or “(He) moves by moving his two feet.” This is only of the same force as the simple, because what is intended there is one thing in its essence, or one concept, which can be signified by one word.

239 Chapter Seven. Remark: Concerning equipollence and positiveness

Sometimes the composition consists of a negative particle with another [term], as in the statement, “Zayed is non-sighted.” By “non-sighted” we intend “blind,” or a concept more general than that.23 / In short, if “non” is made as one thing with “sighted,” or with what resembles it, and is, then, affirmed or negated, “non” as well as any other negative particle [in its place] is, then, a part of the predicate. Thus if you affirm the whole, that would be an affirmation.

22 The parts of the proposition are the subject and the predicate. A subject or a predicate is simple when it does not signify more than one concept, such as “human being” or “walks.” And what is of the same force as the simple is the complex expression but which refers to one concept and can be replaced by a simple expression, such as “the mortal rational animal” or “walks on two feet.”

23 An equipollent is one in which either the subject, the predicate, or both are composed of a simple positive expression and a negative particle (for what a positive expression is, see the following note).

24 Suṣaṭṭoṣoṇa. By “positive” is meant “real,” in the sense of “existent.” But the term is extended to mean any affirmative simple expression. Thus “blind” which indicates a privation of being is taken to be a positive expression.

25 I.e., by “non-sighted” is intended the lack of sight in a being whose nature is to have sight, or the lack of sight whether in a being whose nature is to have sight or in a being whose nature is not to have sight.
And if you negate it, that would be a negation, as when you say, “Zayd is not non-sighted.”

It must be known that every predicative proposition must have, in addition to the idea of the subject and that of the predicate, an idea of the union between the two. This is a third idea in addition to the other two. / If one presumes that words correspond to ideas in number, then this third idea must have a third word signifying it.

In some languages this word may be omitted, as is the case at times in the original Arabic language. An example of this is the statement, “Zayd kattib” (Zayd is a writer), when it must be said, “Zayd huwa kattib” (Zayd is a writer). But in some languages this word cannot be omitted. For example, in original Persian, “as” (is) [cannot be omitted] from the statement, “Zayd doabari” (Zayd is a writer). This word is called “copula.”

242 In Arabic, if a negative particle precedes the copula, as in the statement, “Zayd laka huwa basir” (Zayd is not sighted), then negation has been applied to the affirmation, thus eliminating it and negating it. But if the copula precedes the negative particle, it makes it a part of the predicate. And the proposition is an affirmation as in the statement, “Zayd huwa ghayr basir” (Zayd is non-sighted).

243 Regarding the second point, it has become customary to use some negative particles such as “laks” for the purpose of negation, and “ghayr” for the purpose of equiplience (Vaj., p. 16).

But first, how are we to know the speaker’s intention? The point concerning convention gives a better ground for making the distinction. But it too suffers from some difficulty. For there are some negative particles that are used for the purpose of negation as well as that of equiplience. “La” is one such example, as the above-mentioned passage shows.

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244 A “laks”, wa-maraghaya, wa-ghayr ma’qabala. Each of these three names depts one aspect of this type of proposition. “Equiplience” is a reference to its being equal in affirmation to a proposition whose terms are simple and positive. “Altered” is a reference to its having been transformed from the original state of having positive terms to having a negative particle attached to at least one of its terms, as a part of that term. And “non-positive” is a reference to its being the contrary of a proposition whose terms are positive.

245 That is to say, a proposition is equipollent either when its predicate is an equiplent expression or when its subject is such. An example of the latter is “Non-celestial beings are mortal.” A proposition whose predicate is equipollent is, according to Ibn Sina, of absolute equiplience (Vaj., p. 15); and a proposition whose subject is such is of restricted equiplience. Ibn Sina’s concern is more with the absolute equiplience proposition than with the restricted type. This is because he wishes to make clear the various differences between an absolute equiplience proposition and a simple negative one, in order to prevent confusion between the two. But the restricted equiplience proposition is not in danger of being a part of this confusion.

246 I.e., specific or generic nature.

247 I.e., whether sight belongs to its species, its genus or to something more general (Vaj., p. 16). Ibn Sina’s purpose here is to draw a distinction between an equiplience proposition and a privative proposition. While the former indicates any kind of lack, the latter indicates only the privation of what belongs to the nature of a thing, be that specific or generic. Take, for example, the following statements: “Zayd is non-sighted.”
linguist [who must investigate this matter] with respect to every
language. / The logician must only assume that if the negative
particle comes after the copula, or is governed by it in any manner,
then the proposition is an affirmation, be it true or false; and that it is
impossible for the affirmation to apply, except to something positive,
represented either in [external] existence or in the mind.30 Thus a
judgment can be affirmed of a thing in accordance with that thing's
positive character. / As for negation, it can also properly be made of a
non-positive object whether or not its non-positiveness is necessary.31

Chapter Eight. Remark: Concerning conditional propositions

You must know that connective and disjunctive conditionals may be
composed of conditional propositions, predicative ones or a mixture
[of both]. / Thus, if you say, "If, whenever the sun is out, it is day, then either
the sun is out, or it is not day," you have formed a connective
conditional, composed of a connective conditional and a disjunctive
one. If you say, "Either the sun is out, then it is day; or not if the
sun is out, then it is not day," you have formed a disjunctive
conditional, composed of two connective conditionals. And if you
say, "If this is a number, then either it is even or it is odd," you have
formed a connective conditional, composed of a predicative proposi-

"the mole is non-sighted," and "the stone is non-sighted." While every one of these
statements is equivalent, it is only the first two that are privative.

"Mole." This has been translated here as "mind" and not as "imagination,"
because mythical figures such as the phoenix which are represented in imagination are
excluded by Ibn Sina from being objects to which affirmation applies (ibid.).

Let us summarize the differences between a simple-negative proposition and an
equivalent one.

(1) In the former, a negative particle negates the subject-predicate relation, whereas in
the latter, a negative particle is a part of the subject, the predicat or both.

(2) The former is more general than the latter, due to the fact that a negation is
applicable to an existing as well as to a non-existing subject, while an affirmation,
whether in an equivalent proposition or in a positive one, is not applicable except to an
existing subject—regardless of whether it is the nature of the subject to have that
predicate or not. Thus we are told, "It is appropriate to say that the phoenix is not
sighted, but it is not appropriate to say that the phoenix is non-sighted" (ibid.).

30 i.e., types of conditionals composed of various combinations of the three types of
propositions: predicative, connective conditional and disjunctive conditional.
31 Al-raqiqiyas. This is the disjunctive which is true when one and only one of its
parts is true. Otherwise it is false.
32 Ghayr raqiqiyas. This disjunctive is of two parts, as the text will show: (A)
where both parts can be false, but not both parts can be true; and (B) where both parts
can be true, but not both parts can be false.
33 In other words, if you have a real disjunctive, such as "Either it is day, or it is
night," you can take "it is night," for example, and replace it by what follows from it
and is more general than it, namely, "it is dark." Thus it becomes possible for you to
retain both parts of the disjunctive—i.e., it is possible that it is day, and that there is a
solar eclipse which darkens the earth—but impossible not to have at least one part of
the disjunctive; for it cannot fail that it is either day or it is dark. That is what is meant
by saying that the exclusion is prevented.
34 "Either Zayd is in the sea, or he is not in the sea" is a real disjunctive. ... he is
not in the sea" has been replaced by its consequence which is at the same time more
general than it: ... he is not drowned." From the fact that one is not in the sea, it

tion and a disjunctive one. It is for you to enumerate the remaining
divisions.34 /
The first example is one in which what is possible only with the contradictory is mentioned, and not what is a consequence of the contradictory. In this the union of the parts is prevented, but not their exclusion. The second example prevents the exclusion, but does not prevent the union. Of the unreal disjunctive, there may be other types. But what has been mentioned here is sufficient.

In definiteness, indefiniteness, contradiction and conversion, you must treat the connective and disjunctive conditionals as you would treat predicative ones, with the antecedent as a subject and the consequent as a predicate.

Chapter Nine. Remark: Concerning the dispositions that accompany propositions, and that give them specific judgments in definiteness and in other cases

The expression "only" may be added in predicative propositions. Thus one says, "Only human being is an animal;" and "Only some human beings are writers." This addition of "only" is accompanied by an addition in the meaning not required before this addition, i.e., by the mere predication. For this addition makes the predication equal to or proper to the subject.

Similarly, you may say, "Human being is the laughing creature" with "the" in the Arabic language, i.e., as preceding the predicate—thus indicating that the predicate is equal to the subject.

Again, you say "It is not the case that only human being is an animal," or "It is not the case that human being is the laughing creature," by which you indicate the negation of what was indicated in the former two affirmations.

Chapter Ten. Remark: Concerning the conditions of propositions

In the predicative, connective and disjunctive propositions, you must pay attention to the condition of relation. For instance, if one says, "C is a father," attention must be paid as to whose [father he is]. Similarly, you must pay attention to the time, place and condition. For example, if one says, "Every moveable changes," attention must then be paid [to the fact that this is so] as long as it moves. Again, attention must be paid to the condition of the part and the whole and to the condition of potentiality and actuality. Thus if one says "Wine is intoxicating," attention must be paid as to whether this is so in potentiality or in actuality and in a small part or in a large quantity.

Negligence of such ideas leads to much error.
The Fourth Method

THE MATTERS AND MODES OF PROPOSITIONS

Chapter One. Remark: Concerning the matter of propositions

In a proposition, whether affirmative or negative, the predicate and what resembles it cannot fail / to have [one of three] relations to the subject:

[1] a relation of that whose existence is necessary in the thing itself, such as "animal" in the statements, "Human being is an animal," or "Human being is not an animal;"

[2] a relation of that whose existence and non-existence are not necessary, such as "writer" in the statements, "Human being is a writer;" or "Human being is not a writer;" or

[3] a relation of that whose non-existence is necessary, such as "stone" in the statements "Human being is a stone;" or "Human being is not a stone."

1 "Matter of a proposition" is used in two senses: (1) to refer to the subject or antecedent and the predicate or consequent of a proposition; or (2) to refer to the relation between the two. It is in the latter sense that Ibn Sina is using the expression here. This relation can be either (1) in a manner which cannot be otherwise (necessity of existence); (2) can be otherwise (possibility); or (3) cannot but be otherwise (impossibility; necessity of non-existence) — (1) and (3) are subsumed under necessity.

But "necessity," "possibility" and "impossibility" are also referred to as "modes." So what is the difference between the matter and the mode of a proposition? Here is Ibn Sina's answer.

"The difference between the mode and the matter [of a proposition] is that the mode is an explicit expression signifying one of these ideals [i.e., necessity, possibility or impossibility]; while the matter is the state of the proposition itself [i.e., in reality], not made explicit. The mode and the matter may be different, as in 'it is possible that Zayed is an animal.' The matter [in that] is necessary, while the mode is possible. There are other differences between the two which we need not develop" (Najj., p. 18).

1 i.e., the consequent of a conditional proposition.

2 i.e., in reality.

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All the matters of propositions are, then, these: [1] a matter necessary in existence, [2] a possible matter, and [3] an impossible matter.

By "matter" we mean the three states of which these three expressions are, if used explicitly, true in affirmation.

263 Chapter Two. Remark: Concerning the modes of propositions, and the difference between an absolute and a necessary proposition

Every proposition, either:

[1] is absolute, with common application. This is the type of proposition in which a judgment is presented, without mention of its necessity, duration, or anything else concerning its being in time, or in accordance with possibility / Or

[2] it is a proposition in which something of that is mentioned: either necessity, duration without necessity, or existence without duration or necessity.

4 Wādiha. This is to be distinguished from darārīya (necessary). The former refers to the necessary in existence while the latter refers to the necessary in general, whether in existence or in non-existence (the impossible). In other words, both the necessary in existence and the impossible are particular cases of darārīya (ibid., p. 260). This even though "wādiha" and darārīya are both necessary, it must be remembered that they are such in different senses. Some have translated both as "necessary," without attention to the distinction here. For example, Geiger, Der. Kem., p. 134. But in order to preserve this important distinction the former has been translated here as "necessary in existence" and the latter as "necessary."

5 This is the non-modal proposition. It is absolute in the sense that it is free from modality, and it is said to have common application, i.e., to all modal propositions. This is so because it is nothing but a pure affirmation or a pure negation which is the basic character of every proposition.

6 These are the four modes mentioned by Ibn Sina. (1) Necessity, which is duration. (2) Duration: this is a more general mode than necessity; necessity is duration, but duration can be free from necessity (see pp. 260-270; 276 of the present method) a thing may endure, not by necessity but by chance (aṣīd, Commentary, p. 264). (3) Temporality: this is to be distinguished from (1), in that it may be necessary (in a restricted manner, to be elaborated later in this chapter) without duration, and it is to be distinguished from (2), in that it may endure in a restricted manner, perhaps for a second without necessity. And (4) possibility.

7 These are the first three modes in the order, indicated in the last note. But (4) is missing.
The fourth method

Necessity may be either [1] absolute, as in the statement, "God, exalted, exists;" or [2] linked to a condition.

A condition may be either: [A] The duration of the existence of the essence, as in the statement, "Human being is necessarily a rational body." By this we do not mean that human being has not ceased, and will not cease to be a rational body; for this is false of every human individual. Rather, we mean by this that as long as his essence as human exists, he is a rational body. The case is the same in every negation resembling this affirmation. 9

[B] The duration of the subject's being qualified by that [quality] which is made to accompany it, as in the statement, "Every movable changes." This does not mean absolutely or as long as its essence exists but as long as the essence of the movable moves. / There is a difference between this condition and the first one. For the first condition involves a fundamental essence, i.e., human being, while the present condition involves an essence accompanied by a quality, i.e., the movable. For the movable has an essence and a substance by which movement 10 and the lack of movement 11 can attach. Neither human being nor black is such. 12

[C] The condition [of the duration of the existence] of the predicate. 13

1 This is the necessity that ties the predicate to the subject eternally. The predicate has never ceased and will never cease to belong to the subject. This necessity is absolute in the sense that it is free from links to a condition. Its other name is "eternal necessity." Eternal necessity is considered by Ibn Sina as real, but the first type of conditioned necessity, soon to be discussed, is also real according to him. It must be remembered that by "necessity" is meant both "necessity of existence" as well as "necessity of non-existence." An example of eternal necessity of existence has been given. The following is an example of eternal necessity of non-existence: "God is originated"—taking "God" in Ibn Sina's sense, i.e., eternal etc.

9 That is, in every negative proposition which is necessary, such as "Human being is necessarily not a stone." The necessity here holds as long as the essence of the subject remains human.

10 Text: al-maṣbūr (the movable).

11 Text: al-maṣbūra (the movable).

12 i.e., is such an essence which is accompanied by a quality. For "human being" is a pure essence, free from attachment to any qualities; and "black" is not an essence of any sort but a mere quality.

13 Necessity in this sense endures as long as the predicate belongs to the subject in existence; and without that, there is no necessity. An example of this is "Zayd is by necessity walking, i.e., as long as he walks." For it is possible for him not to be walking when he walks (VIII., p. 2).
example of that which endures and is non-necessary is something like the affirmation or negation, applicable to an individual, of a quality accompanying him in a non-necessary manner as long as he exists, as

you may correctly say that some human beings have white complexities as long as their essence exists, even though that is not necessary.

He who believes that non-necessary predication is found in universal propositions has committed an error. For it is possible that universal propositions have that which is applicable, affirmatively or negatively, to every individual subsumed under them — if they have a multiplicity of individuals — at a determined time as that of the rising and the setting of the stars and that of the eclipse of the sun and the moon; or at an undetermined time as that which belongs to every born human being such as respiration or that which resembles it. / Proposmons which involve necessity as conditioned by something other than [the existence of] the essence may properly be called "absolute," and may properly be called "concrete," as we have

necessity, which belong to these propositions. These propositions are called "absolute" in the sense that they are free from the condition of pure possibility, pure in the sense that it is a mere potentiality, and the condition of real necessity: they are neither non-existent nor existent in a real necessary manner (Najj.). In this reference from Najj., these propositions are called "absolute" in that they are free from conditions; but we are not told what these conditions are. In Mans., these conditions are said to be that of possibility and that of necessity. Propositions that are absolute in this sense are modal, because, as Ibn Sina puts it, their freedom from possibility and necessity is a judgment (Mans., p. 78), added to the pure affirmation or negation of a proposition which is absolute, with common application.

273 Since "possibility" in the second sense is applicable to both aspects of a thing, it is properly designated by the name "possibility." The necessary in existence does not enter this type of possibility, according to which things are either [1] possible, [2] necessary in existence, or [3] impossible. But according to the first

reserved [the latter name] exclusively for them even though there is no quibble over names.

272 Chapter Three. Remark: Concerning the mode of possibility

By "possibility" is meant either:

[1] That which accompanies the negation of the necessity of non-existence — [the necessity of non-existence] being the impossibility attributed to a subject. There, in accordance with this first sense, that which is not possible is, then, impossible. "Possibility," in this sense, is predicated of the necessary in existence.

[2] By "possibility," in accordance with the proper sense that has been handed down to us, is meant that which accompanies the negation of both the necessity of non-existence as well as the necessity of existence, attributed to a subject.

This is to say that "possibility" in the second sense is applicable to a thing, both in the denial of that thing and in its affirmation. So that it is possible for the thing to be, and possible for it not to be, that is, it is not possible to be and not impossible not to be. /

Thus, according to the second and proper comprehension, "the non-possible" has the same meaning as that of "not non-necessary." Hence the necessary in existence is not possible in this sense. / 274

The possible in this sense includes the existent whose necessity of existence does not endure, even though it has necessity at some time, such as the eclipse. 275

[3] The term "possible" may be understood in a third sense which seems more proper than the first two types already mentioned. According to this sense the judgment is not necessary in a real sense, nor in time, as the eclipse; nor in [some] state, as the change for the movable. 276 But it is like writing for the human being. 277

274 Ghayr ala la ikhli-l-karihiyyah. The possible, in the second sense, is what is non-necessary. The non-possible would, then, be the not non-necessary, i.e., the necessary.

275 Ibn Sīna makes the point here that when he says "possibility" in the second sense we are to understand the negation of real necessity only. Utmost necessity is not negated by that type of possibility, but is subsumed under it. As concrete things are called "necessary," in an unreal sense, they are also called "possible" but their possibility is not pure; some degree of necessity has already been attached to them.

276 Al-aš'at (at all). If we are to read this "..." the judgment is not necessary at all, then there would be no need to make the addition that Ibn Sīna makes, namely, that this is so, nor in time nor in a certain state, both of which are types of conditioned necessity. In other words, "... necessity at all" covers all types of necessity; but the addition of the last two phrases indicates that not all types of necessity have been covered by the necessity mentioned in the first part of the sentence.

277 "Not in time" refers to the last three types of conditioned necessity, 2C, 2D and 2E, mentioned in the second chapter of the present method. And "nor in a certain state" refers to the conditioned necessity of type 2B.

278 "Writing" for "human being" endures without necessity. Even though "writing" is necessary, in an unreal sense, for "human being" as long as he writes, it is not necessary in any sense that a human being writes. For "writing" attaches to "human being" accidentally. Conceptually there is no necessary link between "human being" and "writing." But when one sits down and writes, i.e., in existence, there is a necessary link between the subject and the predicate, as long as the predicate endures in existence for the subject.

This third type of possibility is said by Ibn Sīna to have the most proper sense of "possibility" - the reason being its complete freedom from any type of necessity. Even though possibility in this third sense is given, in the present work, as a separate type of possibility, it is not mentioned at all in the discussion on possibility in Naj. (pp. 17-19) In Majm. (p. 73), this type of possibility is mentioned, but there it is considered as a species of the second or proper sense of possibility.


[4] finally, the term "possible" may be understood in another sense. In considering "the possible" in this sense, attention is not paid to that by which a thing is qualified in one of the states of [its] existence, whether affirmatively or negatively. Rather, attention is paid in respect of its future state. Thus if [by] this sense we are to understand the non-necessary in existence, or in non-existence, at any time it is supposed in the future, it is, then, possible. 278

276 He who makes it a condition [of the possible] in this sense that it be non-existent at the present, makes an undesirable condition. This is so because he believes that if he makes it exist, he gives it necessity of existence. However, he does not know that if he does not make it exist, but supposes it as non-existent, he, then, gives it necessity of non-existence. If this is not harmful, that is not harmful either. 279

Chapter Four. Remark: Concerning principles and conditions for the modes

Here are some things you must pay attention to:

You must know that existence does not prevent possibility. How [could it prevent if], when [1] necessary existence is subsumed under the first type of possibility; [2] possibility in the second sense is applicable to that which exists with a conditioned necessity; and [3] that which exists at the present does not negate that which does not exist at a later time, let alone that whose existence and non-existence

278 To summarize the findings of this chapter so far, the first type of possibility, "possibility" in the general sense, is a negation of impossibility. Possibility of the second type, "possibility" in the proper sense, is a negation of both impossibility and necessity of existence - taking "necessity" in the real sense. The third type of possibility, "possibility" in the most proper sense, is a negation of impossibility, real necessity of existence, as well as unreal necessity. The fourth type of possibility, future possibility, is a negation of future necessity.

279 I.e., if necessity of non-existence does not prevent future possibility, then necessity of existence does not prevent it either. Indeed, neither of them does.
are not necessary? For it is not the case that if a thing moves at the present, it is impossible for it to move at a future time, let alone if it is not necessary for it to move or not to move at every moment in the future. / 278

You must know that what endures is other than the necessary. Thus, writing may always be negated of a certain individual at the time of his existence, let alone at the time of his non-existence, without that negation being necessary.

Further, you must know that the necessary negative proposition is other than that which negates necessity; the possible negative proposition is other than that which negates possibility; and the concrete negative proposition which is without duration is other than that which negates existence without duration.**6

These things and the detailed comprehension of the possible are rarely discerned, something which causes much error.

**6 Ibn Sinā draws attention here to the distinction between a negative modal proposition and a proposition whose mode is negated. Take, for example, a necessary negative proposition and a proposition whose necessity is negated. In the former, it is the statement itself that is negated, but the necessity is affirmed. "It is necessary that A is not B." It is the subject-predicate relation that is negated, but it is affirmed that the negation of this relation cannot be otherwise. In the latter, on the other hand, it is the necessity itself that is negated, but the statement is affirmed. In other words, the subject-predicate relation is affirmed, but it is affirmed as not incapable of being otherwise. "It is not necessary that A is B." Here, it is affirmed that A is B, but what is negated is that this is so always.

Similarly, a possible negative proposition is one in which the subject-predicate relation is negated but the possibility of this negation is affirmed while a negative possible proposition is one in which the subject-predicate relation is affirmed, but the possibility of this affirmation is negated. Here is an example of the former: "It is possible that A is not B." And an example of the latter: "It is not possible that A is B."

Finally, to say "It is concretely that A is not B." is to negate the relation of A to B, but to affirm that this negation is concretely so. If instead you say "It is not concretely that A is B," you affirm the relation of A to B, but you negate that this affirmation is concretely so.

In Arabic, the test of whether a modal proposition is negative or whether it is one whose mode is negated is simple: this is determined by the place of the negative particle with respect to the mode. If the negative particle precedes the mode, it is the mode that is negated; but if the negative particle is preceded by the mode, it is the statement itself that is negated.

280 Chapter Five. Remark: Concerning the determination of the universal affirmative in the modes

You must know that if we say, "Every C is B," we do not mean by this that the universality of C is B, or the universal C is B. Rather, what we mean by this is that every one of that which is qualified as C be it so qualified in a mental assumption or in external existence, and be it so qualified always or not always, i.e., in just any manner -- / is a thing qualified by B without adding that it is qualified by B at such and such a time, in such and such a state or always. For all of this is more specific for C than being qualified by B absolutely. This is, then, the meaning of the statement. "Every C is B," without addition of one of the modes. It is in this sense [that the statement] is called "absolute, common and definite." But if we add anything else to it, we give it modality. / An example of a statement with such an addition is, "Necessarily every C is B," as if saying, "Every one of that which is qualified as C, always or not always, is, as long as its essence exists, B by necessity. But if, for example, it is not C, then we do not posit as a condition that it be B by necessity, as long as it is qualified as C; but something more general than that." Another example is the statement, "Every C is always B," as if saying "Every one of the things which is C according to the previously mentioned manner is found to have B always, as long as its essence exists, yet without necessity."

As for the question, "Is this universal affirmative predication true in every case, or is it always false? In other words, is it possible for that which is not necessary to be always present in every individual, or is it always negated of every individual? / Or is this not possible, and that which is not necessary must unavoidably be present in some individuals and must unavoidably be negated of some others?" is a matter concerning which the logician need not make any judgment. It is not a condition of the proposition with which the logician is concerned that it be true. Sometimes he is also concerned with that which is nothing but false.

Again, an example of a statement [having an addition] is, "Every one of the things called C, in accordance with the preceding manner, / i.e., more general than necessity; and that is, duration without necessity.

284 According to duration without necessity.
is called B, not as long as its essence exists but at a determined time, such as the eclipse, or at a non-determined time, such as respiration for the human being. Or it is called C in a state that does not endure, as when we say, "Every movable changes." These are the various types of concrete propositions. 32

Another example is the statement, "Every one of the things called C, in accordance with the preceding manner, may be qualified by B according to 'possibility' taken in the general, the proper or the most proper sense." According to the method of some, the statement, "Every C is B in existence or in something else," has another aspect. This is its meaning: "Every C, at the present or in the past, has been qualified by B at the time of its existence." The statement, "Every C is B," is, then, necessary and / is applicable to the three times. 33

And if we say, for example, "Every C is B, according to 'possibility' taken in the most specific sense," this, then, means, "Every C, at any supposed time in the future, can be correctly qualified as B and as not B." We do not mind paying attention to this consideration, even though the former is the appropriate one. 34

32 Wa-ghayrth (and something other than it), by which is meant "or in non-existence."

33 An aspect other than possibility.

34 If C has existed or exists as B, it is necessary that C be B, and this cannot be otherwise even in the future. This is the view indicated on p. 276 of the present method. But as we have seen, Ibn Sina opposes this view by saying if actual existence, be that past or present, renders the object necessary and hence prevents future possibility, then actual non-existence does not change, but the truth is that neither of them has any bearing on future possibility.

35 Al-okhlap (more proper, most proper, more specific, most specific). It has been translated here as "most specific" rather than "most proper" for the following reason. We learn from Man., p. 73 that what is referred to as "possibility" in the most proper sense is what has been called, in the present method, the third type of possibility, and not future possibility, of which the term is used here. Future possibility, on the other hand, is to be taken into consideration but not to be thought of as the most appropriate type of possibility. The last statement of the present chapter confirms this.

36 In other words, Ibn Sina takes into consideration future possibility, yet he knows that the most appropriate type of possibility is what has been classified in the present method as the third type of possibility.

37 Chapter Six. Remark: Concerning the determination of the universal negative in the modes.

In accordance with what has been considered, you know that in the universal negative absolute with common application, which is required by this type of absolute, it is necessary that the negation be applicable to every one of the things described as subject in the previously mentioned manner, such that no time or state is specified. 35 It is as if saying, "Of every one of the things which is C, B is denied," without specifying the time or state of the denial.

But the languages that we know usually lacked the use of the universal negation in this form. They have used for the universal / negative definiteness an expression indicating a meaning additional to what is required by this type of absolute. Thus in Arabic they say "Lū shay "min jin bd" " (Nothing of C is B). For the Arabs this requires that nothing of that which is C can be at all described as B as long as it is described as C. This is a negation applicable to every one of the things described as C as long as it is subject for [C], and until it ceases to be subject for it. 36 Similarly, it is said in classical Persian, "Hīch jin bā nis" (None of the things which is C is B). This use embraces the necessary 37 and one of the types of the absolute whose condition is in the subject. 38 This has also led many people to error on the side of the affirmative universal.

But the words that best express the universal negative absolute, / with common application, are equivalent to the statement, "Every C
is not B," or "B is negated of every C), without specifying a time or state.

The concrete negative proposition, i.e., the specific absolute, is what is equivalent to the statement, "Every C is something of which B is denied, in a non-necessary and non-enduring manner."

In necessity there is no gap between the two sides.43 The difference between the two is that the statement, "Every C is by necessity not B," makes "necessity" belong to the state of the negation of every one of C). / while the statement, "By necessity nothing of C is B," makes "necessity" belong to the general negation and to its definiteness, and does not apply to every one of C except in potentiality. Thus in spite of the difference in meaning, there is no difference in the consequence of the two statements. But where one is appropriate, the other is [also] appropriate.44

Along this line, judge [the universal negative] involving possibility.

Chapter Seven. Admonition: Concerning points of disagreement and agreement between the consideration of the mode and that of predication

You must know that "absoluteness" of the mode and "absoluteness" of predication are different in meaning and in consequence. For one

43 Al-illahin (aspects, sides, modes). These are the two manners of representing the universal negative proposition: "Every C is not B." and "Nothing of C is B." To translate "al-illahin" here by "modes," as Goughan does (Bk. Rom., p. 147), will not do, whether the reference is to the two forms of universal negation by themselves, or whether the reference is to the necessity involved in these two forms. If the former, then this rendering is incorrect because the two forms of the universal negation by themselves are free from modality. And if the latter, this rendering is still incorrect because the mode involved in both statements is necessity, which is to say, there is one rather than two modes.

44 What is intended here is that even though "Every C is not B" is better fit to give absolute universal negation "absolute" in the sense of "non-modal" - then "Nothing of C is B:" when these two statements involve necessity, they can be used interchangeably, even though they differ in meaning. The difference in meaning between them is this: when "Every C is not B" involves necessity, it says that it is necessary that the negation is actually applicable to every individual C; but when "Nothing of C is B" involves necessity, it says that it is necessary that the negation is applicable to all Cs in general, without touching upon every C individually, except potentially. It is because of this potential equivalence that the two statements can be used interchangeably, in spite of the difference in meaning between their actual states.

du of them may be true without the other being so. For example, if there is a time at which it happens that there is no black human being, then "Every human being is white" is true at that time by judgment of the mode, but not by judgment of predication.

The same is also true of possibility of the mode. Thus if45 at a certain time it is assumed, for example, that there is no color except white or another one of the infinite number of colors, the statement "Every color is white or such other color," is then true in an absolute sense by virtue of the absoluteness of the mode; before that, it was possible. But this possibility is not true if linked to the predicate. For it is not by proper possibility that every color is white. Rather, there are colors that are by necessity not white.

Similarly, if we assume that at a certain time there is no animal except the human being, then "Every animal is a human being" is true at that time in accordance with the absolute sense of the mode. Before that, [this was] in possibility. But this cannot be in possibility if possibility is made to belong to the predicate.46

Along this line, judge the possible.

Chapter Eight. Remark: Concerning the determination of the two particular propositions and the modes

You know that the state of the two particular propositions is from the two universal ones, and you judge the former by [the rules of] the latter. The statement, "Some C is B," is true even if that "some" is described as B at some time and not at another. Further, you know that if each "some" is described thus, then this ["description"] is true of every "some." And if the affirmation is true of every "some," then it is true of every individual. From this you know that it is not a condition of absolute affirmation that it be applicable to every number at every moment. The same is true of negation.47

You must know that if "Some C is by necessity B" is true, this does not require the prevention of the following statement from being true: "Some C is B, in a non-necessary absolute sense, or in possibility." But the converse is not true. You say, "Some bodies are by necessity not
movable," that is, as long as the essence of that "some" exists: "Some are movable by a non-necessary existence," and "Some are [such] by a non-necessary possibility."

Chapter Nine. Remark: Concerning the implication of modal propositions

You must know that the statement, "By necessity it is," is of the same force as the statement, "It is not possible - taking 'possibility' in the popular sense - that it is not," which in turn is of the same force as the statement, "It is impossible that it is not." / And the statement, "By necessity it is not," is of the same force as the statement, "It is not possible - taking 'possibility' in the general sense - that it is," which is of the same force as the statement, "It is impossible that it is." [In] each order, these propositions are implied by those which are parallel to them and are interchangeable with them.

As for the possible statement whose "possibility" is in the proper sense, and that whose "possibility" is in the most proper sense; there are no statements that they imply, and that are equivalent to them, of the two types of necessity. Rather, they imply statements of the modal type which are more general than they and which are not convertible with them. It is not necessary that every implied statement be equivalent to that which implies it. Thus the statement, "By necessity it is," implies the following statement: "It is possible that it is," taking "possibility" in the general sense; yet it is not convertible with it. For it is not the case that if it is possible that it is, it must, therefore, be necessary; but perhaps it is possible also that it is not. The statement, "By necessity it is not," implies the following statement: "It is possible that it is not," taking "possibility" in the general sense also; and again without convertibility between the two - the explanation is the same.

Further, you must know that the statement, "It is possible that it is," taking "possibility" in the proper sense and in the most proper

396 sense. / implies only the following statement: "It is possible that it is not," according to the same type of possibility. [These two statements] are equivalent. As for [the possible statement] whose possibility is of another type, it does not imply that which is equivalent to it, but that which is more general than it, such as "It is possible that it is," taking "possibility" in the general sense; and "It is possible that it is not," taking "possibility" in the same sense. What is implied by this is, "It is not necessary in existence that it is;" "It is not necessary in existence that it is not." And "It is not impossible that it is;" "It is not impossible that it is not." In short, "It is not necessary that it is;" "It is not necessary that it is not;"

Chapter Ten. Delusion and Admonition

The problem that a group of people raise to create fear is the following: "If the necessary in existence is possible of being, and [if] the possible of being is possible of non-being, then the necessary in existence is possible of non-being." And, "If the necessary in existence is not possible of being, and [if] that which is not possible is impossible of being, then the necessary is impossible of being."

It is not exceptionally difficult to solve this problem. For the necessary in existence is possible of being, according to "possibility" in the general sense. But it does not follow from this "possible" that it can be convertible with "possible of non-being." The necessary in existence is not possible in the proper sense. And from the statement, "It is not possible in this sense," it does not follow that it is impossible. Because that which is not possible in this sense is that which is necessary, either affirmatively or negatively. / Even though people are well aware of the doubt [concerning the seriousness of this problem], and expect to be given a solution for it, they, nevertheless, repeat their error. Thus whenever they find it true of a thing that it is not possible, or they suppose it thus, they think that it follows from this that by necessity it is not. But on this [misunderstanding], they continue in error. For they do not remember that it need not be the case that which is not possible, in the proper and most proper sense, by necessity is not; but

398 I.e., the proper one.
The Fifth Method

ON THE CONTRADICTION AND CONVERSION OF PROPOSITIONS

A general word concerning contradiction

You must know that contradiction is the differing of two propositions in affirmation and negation, in a manner requiring essentially that one of the two propositions be true—whether in itself or not in itself—and the other be false. So that truth and falsity are inherently present in the two propositions, even though this is indeterminate, according to the unlearned, in some possible propositions. / 300

There is opposition in affirmation and negation only when the negative of the two propositions / negates the affirmed one, [just in the sense in which] it is affirmed. For if a thing is affirmed and it is not true, then the meaning of "It is not true" is that the thing is not as it is affirmed. Conversely, if a thing is negated and it is not true, then the meaning of "It is not true" is that the contradictory of the affirmation is false.

But it may have been that one is distracted from considering the contradiction, due to being distracted from considering the opposition. In considering the opposition, you consider: in each of the two propositions, what you consider in the other. So that the parts of each of the two propositions are the same as those in the other and have the same conditions as those of the other. Thus [the following items in one proposition] are not different in meaning [from those in the other]:

1. subject and predicate, and what resembles them; /
2. condition and relation; /
3. part and whole; /
4. potentiality and actuality;

Text: ḥaḍ-dārānī lāt (by necessity it is not).
5. i.e., possible in the proper sense.

Text: ṣad-dārānī lāt (by necessity it is not).
6. i.e., possible in the proper sense.

Text: ṣa-dārānī lāt (by necessity it is not).
7. i.e., possible in the proper sense.

Text: ṣa-dārānī lāt (by necessity it is not).
8. i.e., possible in the proper sense.

Text: ṣa-dārānī lāt (by necessity it is not).
9. i.e., possible in the proper sense.
If the proposition is not singular, then the two propositions must also differ in quantity – I mean, in universality and particularity – as they differ in quality – I mean, in affirmation and negation – otherwise it would be possible for the two propositions not to partition truth and falsity. Instead they would be false together, such as the two universal propositions when their matter is possible. Here is an example: “Every human being is a writer,” and “Not one human being is a writer.” Or the two propositions would be true together, such as the two particular propositions when their matter is also possible. An example of this is: “Some human beings are writers,” and “Some human beings are not writers.” But in definite propositions, after the previously-mentioned conditions have been satisfied, the contradiction is not completed except if one of the two propositions is universal and the other particular. After these conditions have been satisfied, there may be need in modal propositions of [other] conditions for the realization of the contradiction.

Let the affirmative proposition first be universal. And let us consider [it] in the matters. Thus if we say, “Every human being is an animal,” “Some human beings are not animals,”; “Every human being is a writer,” “Some human beings are not writers;” “Every human being is a stone,” and “Some human beings are not stones,” we find that one of the two propositions [in each pair] is true and the other false – even though the true in the necessary [matter] is other than that in the other two [matters].

Now let the negative proposition be also universal. And similarly, let us consider [it] in the matters. Thus, if we say,

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1 Text: fi muddat al-imkan (in the matter of possibility).
2 Text: fi muddat al-imkan (in the matter of possibility also).
3 Text: suhnaqata. The pronoun at the end of suhnaqata refers to "mode," so that the sentence would read: "... the realization of the mode."
4 I.e., necessity, possibility and impossibility.
5 These two statements are in the matter of necessity.
6 These two statements are in the matter of possibility.
7 These two statements are in the matter of necessity.
8 These two statements are in the matter of possibility.
9 These two statements are in the matter of impossibility.
10 These two statements are in the matter of necessity.
11 These two statements are in the matter of possibility.
12 These two statements are in the matter of possibility.
13 In other words, if the statement, “Every C is B,” is allowed to be freed from the condition "at every time," then it is not contradicted by the statement, “Some C is not B.”
14 I.e., the contrary of the statement, “Every C is B.”
condition "at every time," then it is possible for the negation which is applicable to every, or to some individuals, to be true with the affirmation — if [the negation] is not at every time.

Rather, it is necessary that the contradictory of the statement, "Every C is B," taken in the most general absolute sense, is "Some C is always not B." And the contradictory of the statement, "Nothing of C is B," which is in the sense of "B is denied of every C," without addition, is the statement, "Some C is always B." You know the difference between this enduring proposition and the necessary one. The contradictory of the statement, "Some C is B," taken in this absolute sense, is the statement, "B is always negated of C." And this corresponds to the expression used in universal negation which is "Nothing of C is B," taken in accordance with the already-mentioned customary use. And the contradictory of the statement, "Some C is not B," is the statement, "Every C is always B." / 309

As for the absolute proposition which is the more specific — this is the proposition which we have exclusively designated by the name "concrete proposition" — / if we use it to say, "Every C is B," in the manner we have indicated, then its contradictory is, "Concretely only, every C is not B." That is, either "By necessity some C is B," or "B is denied of [some C]." And if we employ the concrete proposition to say, "Nothing of C is B," in the manner previously indicated, then the contradictory opposite of this is what is understood by the statement, "Of some C, B is always affirmed or denied." For if the judgment has preceded as "Of every C, B is denied, sometime and not always," then the statement which is the opposite [contradictory] of this is only one which denies it always or affirms it always. We do not find / a proposition which does not have a counterpart or whose counterpart is difficult to find. The contradictory of the statement, "Some C is B," in the manner under consideration, is "Nothing of C is B, concretely only." And the contradictory of the statement, "Some C is not B," which is the negation of "Some C is B," in the same sense, is the statement, "Every C is either always B, or always not B."

Do not think that the statement, "Not in an absolute sense, something of C is B" — which is the contrary of the statement, "In an absolute sense, something of C is B" — has the same meaning as the

statement, "In an absolute sense, nothing of C is B." For the former statement may be true with the statement, "By necessity, every C is B," but the latter cannot. / 312

If we want to find for the absolute proposition a contradictory of the same genus, then the procedure is to make the absolute proposition more specific than that which is required by the same affirmation or negation, taken in an absolute sense. This is exemplified by making the universal affirmative absolute proposition one in which the judgment is not only applicable to every individual, but also at every time in which the subject is qualified by that which has qualified it or was made to accompany it, as one must comprehend by the usual sense of expressing the judgment in the universal negative. So that the statement, "Every C is B," is true only if every one of C is B at every time in which C is and at every moment. Such that if at a certain moment a thing is qualified as B by necessity or by non-necessity, yet at that moment it is not qualified as B, the statement is then false, as one comprehends by the expression customarily used for the universal negation. If we agree / on this, then the statement, "Some C is not B," is the contradictory of the statement, "Every C is B." And the statement, "Some C is B, in an absolute sense," is the contradictory of the universal negative.

But we would have posited a condition additional to what is required by the pure affirmation and pure negation. Yet in spite of that, no absolute in the concrete sense is necessitated by this condition. / For it is not the case that, if every C is B at every moment it is C, therefore, by necessity it is B as long as its essence exists. You have already learned this.

Those who have preceded us cannot, by their examples and their use, agree with us on that. But the explanation of this is much too long. / 315

If the procedure is also to make the statement, "Every C is B," such that only a specific time is intended in it, a time which is not common to every one or to every individual C but [only] to every C existing at that time — the same being true of the statement, "Nothing of C is B," [in which what is intended] are the Cs that exist at a specific time / — then if we preserve that specific time in the two particular

15 Addition of the condition "at every time."

16 That is, always.

Text: min jinbat suhail manjul bi-iznil (are Cs of a specific time that exist).
propositions after [preserving] the rest of what must be preserved, and whose preservation is easy, the contradiction obtains. / 316 A group of people have judged this to be so. But they were unable to continue paying attention to this principle. Again, they found themselves in need of shying away from the consideration of beneficial conditions. For a determination of this, one should refer to Kitab ash-Shifa'.

Chapter Two. Remark: Concerning contradiction in the remaining modal propositions

As for the enduring proposition, the contradiction for it is produced in the same manner as that of the concrete proposition, [taken] in accordance with the first procedure. And it is close to it. Learn the [procedure] from that.

The statement, "By necessity, every C is B." has as a contradictory: "Not by necessity, every C is B." This is to say, "Rather it is possible, taking 'possibility' in the most general and not in the most specific or proper sense, that some C is not B." / What is implied by it is what is implied by this possibility in this place. 18 The statement, "By necessity, nothing of C is B," has as a contradictory: "Not by necessity, nothing of C is B." That is, "It is possible that some C is B, taking 'possibility' in that sense" 19 and not in another. The statement, "By necessity, some C is B," is opposed, along the lines indicated, by the statement, "It is possible that nothing of C is B, taking 'possibility' in the most general sense." What negates this possibility does not imply what affirms it, and what affirms it does not imply what negates it. 20 Keep this in mind, and do not forget it as did the Ancients.

The statement, "It is possible that every C is B, taking 'possibility' in the most general sense," is opposed, in the manner of a contradictory, by the statement, "It is not possible that every C is B;" / which implies "By necessity, some C is not B." Now you yourself complete the

18 That is, what is implied by "Not by necessity, every C is B" is the same as what is implied by "It is possible that some C is not B, taking 'possibility' in the most general, or in the popular sense."
19 I.e., in the most general sense.
20 As in the case with "possibility" taken in the proper sense. There it is true to say, "It is," and "It is not."

remaining divisions 21 along the lines already indicated, and which you have learned.

The statement, "It is possible that every C is B, taking 'possibility' in the proper sense." is opposed by the statement, "It is not possible that every C is B." This does not imply "that is impossible" more than it implies "that is necessary in existence." Rather, it does not imply any kind of necessity. This you must retain. The statement, "It is possible that nothing of C is B according to this kind of possibility," is opposed by the statement, "It is not possible that nothing of C is B." As if he who says this says, "Rather, it is necessary in existence that something of C is B," or "It is impossible..." Again, as if he says, "By necessity, some C is B," or "By necessity, some C is not B." There is no common element that these two statements 22 share to immediately enable us to make an affirmative statement about it so that the contradiction of the possible negative would be affirmative. Further, what need is there for that [when] it is known that the statement, "It is possible that it is not," is, in truth, an affirmation? / In addition to this, the statement, "It is possible that some C is B according to this sense of possibility," has as a contradictory the statement, "It is not possible that some C is B." That is, either "It is necessary that it is" or "It is necessary that it is not." And the statement, "It is possible that some C is not B," has as a contradictory, the statement, "It is not possible that some C is not B." That is, "By necessity, every C is B," or "By necessity, nothing of C is B." This is how you must comprehend the state of contradiction of modal propositions. And cast aside what others say.

Chapter Three. Remark: Concerning the conversion of absolute propositions

Conversion is the rendering of the predicate of a proposition as the subject, and the subject as the predicate, while retaining the quality, truth and falsity as they are. / 322 It is customary to begin with the conversion of the universal absolute negative, and to show that it is converted to itself. The truth

21 I.e., the remaining possible propositions, whose "possibility" is taken in the most general sense.
22 Text: al-annin (two matters, or two things).
is that it does not have a conversion, except by some procedures already-mentioned. Thus it is possible to negate, in an actual manner, "laughter" of every individual human being; but this does not necessitate the negation of "human being" of anything that laughs. For a thing which does not exist except in a certain thing may be negated, in an absolute manner, of that certain thing without its being possible to negate the latter of the former. / 323 The reasoning of some does not necessitate, except that the absolute proposition be taken under one of the other two aspects. This is how this reasoning proceeds.

If we say, "Nothing of C is B," this necessitates that the following absolute proposition, "Nothing of B is C," is true; otherwise the contradictory which is the following absolute proposition, "Some C is B," will be true. Let us suppose that this "some" is a specific thing, and let it be D. Then D itself is C and B at the same time. / Thus something which is C is B - this something being B, the supposed object. Not that the affirmative particular conversion makes it affirmative, for we have not yet learned the conversion of the affirmative particular. But we have said, "Nothing of C is B." This is impossible.

The response to this reasoning is that this is not impossible, if the negation is taken / in an absolute, and not in a usual sense only. You have already learned that, in absoluteness, both are true as it is true to negate, in an absolute manner, actual laughter of every individual human being and to affirm it of some. / 326 Taken under the other two absolute aspects the universal negative converts to itself, according to this same reasoning. / 329 As for their recent reasoning, which is in accordance with the method of divergence, introduced after the first teacher, there is no need for us to mention it. For, even though certain people may think well of it, it is falsified. We had already shown its case in Kitāb 'ash-Shīfa'. /

30 The universal affirmative must not convert to a universal proposition. For the predicate may be more general than the subject. Nor also must it convert to a pure absolute proposition, without necessity. Since the predicate may not be necessary for the subject, while the subject is necessary for the predicate, such as respiration for the animal that has lungs. Respiration is concrete and of non-enduring concomitance [for such an animal]. But the latter is necessary for respiration. For every being that respires is by necessity an animal that has lungs.

An absolute proposition converts only to a general absolute, capable of receiving necessity. But the affirmative universal can, without doubt, be converted to an affirmative particular. Thus if "Every C is B," then we must be able to find a specific thing which is C and B. This C will then be B. And this B will be C.

Similarly, the affirmative particular converts to itself. / And if the affirmative universal and the affirmative particular are among the absolute propositions which have a contradictory of the same genus, then it can be shown that they convert to a particular in the following way: if it is not true that some B is C, then nothing of B is C / from which it follows that nothing of C is B.

As for the negative particular, it does not convert. For it is possible that "Every C is not B" when "Every B is C," it is not the case that "Every B is not C." For example, it is true that some human beings do not actually laugh, and it is not possible that none of the things which actually laugh is a human being.

Chapter Four. Remark: Concerning the conversion of necessary propositions

As for the necessary universal negative, it converts to itself. For if B were by necessity negated of every C, and [if] it were then possible to find some B which is C and to suppose it, this would convert to "Some C is B" in accordance with the requirement of the absolute sense which is common to the necessary and others. But this is not at all true with the universal necessary negation. Rather, it is impossible that they are true together. Thus that to which this has led is an
impossibility. It is for you to show this by hypothesis. / Thus make this "some" D; then you find that some of what is C has become B, when it had been posited that "Nothing of C is B." This is impossible.

The necessary affirmative universal converts to an affirmative particular, in accordance with what has been shown of the judgment of the absolute proposition, with common application. But it must not convert to a necessary proposition. For it is possible that the conversion of a necessary proposition is to a possible one. / But it is possible that C, such as "laughter," has B, such as "human being," as necessary for it; while B, such as "human being," has C, such as "laughter," as non-necessary for it. Do not believe him who says anything else and attempts to play tricks concerning this matter. Thus the necessary affirmative universal converts [to a possible proposition] whose "possibility" is taken in the most general sense.

The necessary affirmative particular also converts to a particular along the same lines. / And the necessary negative particular does not convert, for the reason you already know. An example of this is "By necessity, every animal is not a human being." But "Every human being is an animal." Then it is not the case that "Every human being is not an animal."

Chapter Five. Remark: Concerning the conversion of possible propositions

As for the possible propositions, they must not have a conversion in negation. For it is not the case that, if "It is not impossible, but possible, that no human being writes," it must be that "It is possible, and not impossible, that none of those who write is a human being; or that some of those who write are not human beings."

Similarly, this example shows the case of the possible, in the proper and the most proper senses. For it is possible to deny one thing of another, but not conversely, because the latter is the proper subject of the former, and the former does not occur except to the latter. /

The possible propositions in affirmation must have conversion. But the proper possible must not convert to itself. Do not listen to him who says that "If a thing is possible, and not necessary for its subject, then its subject is the same with respect to it." Reflect on how that which moves voluntarily is among what is possible for the animal, and how the animal is necessary for it.

Do not pay attention to the efforts made by a certain group concerning this matter. Rather, all types of the possible in affirmation convert, according to the most general possibility. Thus if "Every C is B in possibility" or "Some C is B in possibility," then "Some B is C in the most general possibility"; otherwise, it is not possible that anything of B is C. / But, as you already know, "By necessity, nothing of B is C" which converts to "By necessity, nothing of C is B." This is absurd.

Someone may say, "Why do you not convert the proper possible negative, since it is of the same force as the affirmative one?" We say that the reason for this is that it is -- I mean the affirmative one -- only converts to an affirmative of the most general type of possibility. And thus the quality would not be preserved. But if its conversion must be to a proper possible, then it would be possible to convert it from an affirmation to a negation. And then the quality would be brought back through the conversion. But this is not [how] the conversion must be.

A certain group claims that the possible particular negative converts, because [the proper possible] particular affirmative, which is of its force, converts -- the assumption being that [the latter] also [converts] to a proper [possible], which can be brought back to negation. Their belief is false. You may determine this from what you have already learned. This is illustrated by the statement, "It is possible that some human beings are not laughing creatures;" but you do not say, "It is possible that some of those who laugh are not human beings."

26 I.e., the quality of the proper possible negative.
The Sixth Method

Chapter One. Remark: Concerning propositions, with respect to those of them involving assegnt, and similar ones. The types of propositions employed by syllogists and their like are four. [I] admitted propositions, [II] presumed propositions and those

1 In the Ninth Method, we will learn that every type of discourse requires a different type of premise. The present method classifies and discusses the various types of propositions that are employed in the premises of the various types of discourse.

2 Those resembling syllogisms are those who use induction or analogy.

3 Here is an outline of these propositions and their subdivisions:

1. Admitted Propositions (maslulmat)
   a. Beliefs (mu'agadda)
      i. Propositions that must be accepted (al-marjaf al-qabili)
         1. Primary propositions (wahaliyyah)
            a. Those whose evidence may be concealed (al-rubub al-khati')
            b. Observational propositions (mushahadat)
               i. The sensible (al-mahazi)
               ii. Reflective propositions (tibiiyya)
               c. Experiential propositions (mu'ajjarat)
               d. Intuitional propositions (al-hudaiyya)
               e. Propositions based on unanimous traditions (muwaxatari)
               f. Propositions containing syllogisms (qalata al-qiyas hadha mu'ah)
      b. Widely-known propositions (al-masihat adui)
         i. Primary propositions and the like (generally acknowledged) (al-wahliyyad wa-ashkabi)
      c. "Praiseworthy" opinions (al-mahadi)
   b. Estimative propositions (al-wahmiyyat)
   2. Propositions based on outside sources (mu'khadhas)
      a. Received propositions (maslulad)
      b. Determined propositions (saqqiyah)
   II. Presumed Propositions and Those of the Same Order (mazadiin)
   III. Ambiguous Propositions Resembling Others (musabibah bi-ghayruth)
      1. Different in meaning due to the mediation of an expression
         A. Different in meaning due to the sense of the expression

of the same order, [III] ambiguous propositions resembling others and [IV] imagined propositions. /

[I] Admitted propositions are either [I] beliefs or [II] propositions based on outside sources.

1.1. Also, beliefs are of three types: [A] propositions that must be accepted, [B] widely-known propositions and [C] estimative propositions. /

1.1.1. Propositions that must be accepted are either [a] primary propositions, [b] observational propositions or [c] experiential propositions, together with [d] intuitional propositions, [e] propositions based on transmitted unanimous accounts and [f] containing their syllogisms. / Let us begin by identifying the types of propositions that must be accepted, and the kinds that fall under this group.

1.1.1.1. The primary propositions are those that are necessitated by the essence and instinct of a clear intellect, and not by any cause external to it. Thus whenever by its essence the intellect conceives the terms of these propositions, it makes an assent. Therefore, an assent in these propositions does not depend except on the occurrence of the concept, and the discernment of [its] composition. Of these
propositions. There are: [i] those which are evident to all, because their terms are conceived clearly, and [ii] those whose evidence may be concealed, and need reflection on the concealed aspect of the concept of their terms. For if the concept is confused, the assent too is confused. But this division does not present a difficulty for sharp minds that can penetrate the concept.

[1.1.4.1] Observational propositions are of the type of [i] the sensible—the latter being propositions whose assent is acquired from the [external] sense only. / Examples of these are our judgment that the sun exists and that it shines, and our judgment that fire is hot. Or [ii] they are of the type of reflective propositions produced by the observation of powers other than those of the [external] sense. Examples of such propositions are our knowledge that we have thought, fear and danger, and our awareness of ourselves and the acts of ourselves.

[1.1.4.2] The experiential propositions are propositions and judgments that are consequent upon our repeated observations, which leave a trace by their repetition, thus insuring the formation of a strong and an indubitable belief. / It is not incumbent upon the logician to seek the cause of that after the absence of doubt concerning the existence of [this belief is established].

Experience may necessitate a certain judgment, / or it may necessitate a probable one. And it is inevitable that experience has a concealed syllogistic force, mixed with the observations. This is exemplified in our judgment that hitting with wood is painful.

Experience is established only if the soul is assured that the thing is concordant, and to which certain conditions are added. It is then that experience is established. /

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4 Text: ιδραν (al).
5 Text: ιδραν (al).
6 /ibidem/. These propositions are produced by the internal senses, as opposed to those that are produced by the external ones. But both types of propositions are subsumed under "observational propositions."

The formation of experience requires sense-perception. However, not all sense-perception can serve this purpose, but only that which is repeated and whose repetition is preserved in memory (cf. p. 65; see Aristotle, Anal. Post., II, 19, 99b, 34-40, 100a, 1-6; also, Meta., A, 1).

7 i.e., the formation of this strong and indubitable belief.
8 Such as time, place, etc.

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348 [1.1.4.4] Among what resembles the experiential propositions are the intuited ones. These are propositions in which the principle of the judgment is a very strong intuition of the soul, with which doubt is removed and to which the mind submits. If one denies that, because one does not take up the consideration required by the power of this intuition, or by way of opposition, one does not achieve what is achieved by him who has this intuition. An example of this is our judgment that the moon gets its light from the sun, in a manner that forms light on it. The intuited propositions too have a syllogistic force; and they are most analogous to the experiential propositions. /

349 [1.1.4.5] Similarly, propositions based on transmitted unanimous accounts are those with which the soul finds full tranquility, by means of which doubt is removed due to the multiple observations, even though doubt is possible. / So that uncertainty regarding the occurrence of these observations in a concordant and a univocal manner is eliminated. This is like our belief in the existence of Makka, Galen, Euclid, and others.

He who tries to limit these observations to a definite numerical figure seeks the impossible. For, if propositions based on transmitted unanimous accounts do not rely on a specific number of observations, not susceptible to increase and decrease. Rather, they rely only on a figure with which certainty occurs. It is certainty, therefore, that determines the sufficiency of the observations, and not their number. These propositions are also such that he who denies them is not convinced or silenced by words. /

350 [1.1.4.7] As for the propositions containing their syllogisms, they are propositions in which assent is not made only due to an intermediary. That intermediary is not among what escapes the mind —thus requiring the mind to seek it. Rather, whenever the two extreme terms of the problem are present to the mind, the intermediary is also present to it. / An example of this is our judgment that two is the half of four.
We have already exhausted the discussion of enumerating the types of propositions that must be accepted, grouped under beliefs, which in turn are grouped under admitted propositions.

[1.1.8] Among the widely-known propositions falling under this group, there are [a] primary propositions and the like, classified as what must be accepted, not inasmuch as they must be accepted [in themselves], but inasmuch as they are generally acknowledged. / 351 And [b] opinions referred to as "praise-worthy" for which we may reserve the name "the widely-known" since they are based solely on notoriety.

These are opinions such that if the human being has his pure intellect, his estimative power and his senses free [from them; if] he is not educated to accept and acknowledge their judgments; [if] induction does not incline his strong opinion to make a judgment due to the multiplicity of particular cases; and [if] they are not called for by that which is in the human nature of mercy, abashment, pride, zeal, etc.; then the human being does not assert them due to abiding by his intellect, his estimative power or his sense. Examples are our judgments that stealing the wealth of others is an ugly act and that lying is an ugly act which must not be pursued. / Of this genus [of acts], there is that which presents itself to the estimative power of many people—such as the ugly act of slaughtering animals—even though the Law turns many of them away from it, following the compassion of the instinct of them whose instinct is compassionate. These are the majority of people. Nothing of this is required by the pure intellect.

If a human being imagines himself as created at once with a complete intellect, without education and without abiding by the psychological and moral sentiments, he would not assert any such propositions. Rather, it would be possible for him to be ignorant of them and to stop short of [asserting] them. The case of his judgment that the whole is greater than the part is not the same. These widely-known propositions may be true and they may be false. If they are true, they are not related to the primary propositions and what resembles them, since the truth is not evident to the primordial intellect, except by reflection and thought even though this intellect

353 finds them praise-worthy. / But the true is other than the praise-worthy, as the false is other than the abominable. For the abominable may be true and the praise-worthy may be false.

Thus the widely-known propositions are concerned with either obligations, reformative education and those things on which divine laws agree, character and sentiments or inductive conclusions.

These propositions are presented either in an absolute manner or after the manner of skilled people or the leaders of a sect.

[1.1.1] The pure estimative propositions are false propositions. But the human estimative power asserts them in a very strong manner.

For the estimative power does not accept their contrary / or opposite, due to the fact that this power follows the senses, and what does not agree with the senses is not accepted by the estimative power. It is known that if the sensibles have principles and fundamentals, these principles and fundamentals must be prior to the sensibles. They are neither sensible, nor is their existence of the same sort as that of the sensible. Thus it is not possible to present that existence in the estimative power. / For this reason, the estimative power itself and its acts cannot be represented in this power. / Because of this, the estimative power cannot assist the intellect in [grasping] the fundamentals which lead to the existence of these principles. / If the intellect and estimative power together pass to a conclusion, the estimative power retreats and refrains from accepting that whose necessity has been admitted.

This type of proposition is stronger in the soul than the widely-known propositions which are not primary. They are almost like the primary propositions, and fall under the type of proposition that

34 I.e., the group of beliefs.

35 I.e., the existence of these principles and fundamentals.

36 That is, since what is represented in the estimative power is only the sensible, and since these fundamentals and principles are not sensible but prior to the sensible, it follows that they cannot be represented in the estimative power.

37 The assumption being that the estimative power and its acts are both nonsensible, and from what has been said, it follows that they cannot be represented in the estimative power.

38 That is, since the material of the estimative power is only the sensible, and since the fundamentals together with the principles they produce are nonsensible, it follows that the estimative power cannot furnish the intellect with the assistance needed for the grasping of these fundamentals and principles.

39 I.e., the praise-worthy opinions.
resembles the primary ones. These are judgments of the soul concerning things, prior to the sensibles, or more general than they, of the order of that which must not belong to them or of the order of that which must be believed to be in the sensibles.²¹ Examples of this are the beliefs of him who holds that it is impossible not to have void at the limit of the plenum if the plenum is limited, and that it is impossible for any being to be such that one cannot point in the direction of its presence.²²

Were these estimative propositions not opposed by the religious laws, they would have been widely-known. It is only through true religions and the philosophical sciences that the notoriety of these propositions is impeded. He who rejects that²³ can hardly struggle against himself for rejecting it, due to the stronghold that the estimative power has upon him. But if that which is rejected and not accepted by the estimative power is sensible, then it must be rejected and denied.²⁴ Yet even though it²⁵ is false and abominable, it is not without notoriety. The primary and estimative propositions which have no conflict with others²⁶ are of the widely-known type; but the converse is not true.

²¹ Test: avvad nahe ma yajib an yakun ar yuzum fi al-mahsas isor of the order of that which must be, or which is believed to be in the y. Volee.
²² I.e., every being is localized. But this is false. For God and the angels are not beings in the direction of whose presence one can point since they are non-spatial.
²³ Wa-id yakub al-madda' on nthalk taqatum na'ahah fi idn thathak. These are the propositions concerning the non-sensible which are accepted by the intellect.
²⁴ Ibn Sina distinguishes here between two types of estimative propositions: the first is concerned with the non-sensible, and the second is concerned with the sensible. Since, as mentioned, the proper material of the estimative power is only the sensible, the first type of proposition must, therefore, be false, for the estimative power exists by extending beyond its proper realm. However, their hold on the soul is so strong that they appear very similar to the primary propositions. As for the second type of estimative propositions, they are true since they are concerned with the proper material of the estimative power. That is why it is said that if the estimative power rejects anything sensible, that thing must be rejected. Similarly it can be said that if the estimative power accepts a sensible, that sensible must be accepted.
²⁵ This shows that what is stated at the outset of the discussion concerning estimative propositions (p. 353), namely that these propositions are false, is applicable only to the first type of estimative propositions mentioned here, and that Ibn Sina calls "purely estimative"—pure in the sense that their materia is non-sensible.
²⁶ I.e., the first type of estimative propositions, mentioned in note 24.
²⁷ The Ninth Method, chapter 3
²⁸ In other words, it takes more than one consideration to bring out the real nature of these propositions. A first consideration makes them appear as if they are not presumptions, but a kind of the widely-known propositions. It is only by further consideration that one can detect what they really are.
²⁹ That is, if the soul is freed from its restlessness and preoccupation.
³⁰ This is to be contrasted with the admitted propositions which, whether true or false, the soul is inclined to assert as true, and with no feeling that the opposite is possible.
The received propositions may fall under the presumed ones if the consideration is concerned with the aspect of the soul’s inclination which occurs there with a feeling that the opposite is possible.  

III. Ambiguous propositions that resemble others resemble something of the primary propositions, or of the widely-known propositions; but they are not these very propositions. / This resemblance is produced by either [1] the mediation of an expression, or [2] the mediation of a meaning.  

[III.1] That which is produced by the mediation of an expression is such that the expression in the two propositions is the same, but the meaning is different.  

[III.1.A] The meaning may be different in respect of the sense of the expression itself, as it is [in respect of] the comprehension of the expression “al-qayn.”  

However, this difference may be well-hidden, as in the case of “light” when it is sometimes taken in the sense of “sight” and sometimes in the sense of “truth in the intellect.”  

[III.1.B] Again, this difference in meaning may be in respect of that which occurs to the expression in its composition — / either in the composition itself of the expression, as in the phrase “ghulam hasan” with two sakinas, or according to the diversity of signification of the connective particles in the composition which have no signification by themselves. Rather, it is only through the composition that these particles have signification. These particles are the instruments in their various types. Here is an example: “ma ya’lim al-insan fa-huwa kand ya’lamuh” (what a human being knows is the same as what he knows; or a human being is what he knows as he knows it).  

Sometimes “huwa” (is) refers to “what is known” and sometimes to “human being.”  

[III.1.C] Further, the difference in meaning may be in accordance with what occurs to the expression in its declension. Or it may be produced in other ways, pointed out in different places, and which merit many lengthy elaborations. /  

[III.2] As for the resemblance which is produced by [the mediation of] the meaning, it is something like [A] what is caused by imagining the converse. An example of this is taking “All snow is white” and believing “All white is snow.”  

[III.2.B] Similarly, if one takes the concomitant of a thing instead of that thing, then one believes that the judgment about the concomitant is about the thing. This is exemplified in the fact that [because] the human being has the concomitants of having estimation, being under obligation, and having speech, one imagines that anything that has some estimation and discernment is thus under obligation.  

[III.2.C] Also, this is the case if a thing is described by that which occurs to it accidentally. An example of this is the judgment that scummony is refreshing, since in one respect it resembles what refreshes. The same is true of other things resembling these. /  

In short, any proposition that pairs [with another] is in a state which necessitates assent, since it resembles or is analogous to the proposition which is in that state, or is close to it.  

Thus these are the propositions resembling others, either by expression or by meaning. What is left are the imagined propositions.  

[IV] Imagined propositions are such that, when they are stated, they leave in the soul an astonishing effect of distress or pleasure. [Stating them] may strengthen the effect of the assent, and it may not be accompanied by assent. This is exemplified by the influence which our statement or judgment, “Honey is a vomited bile,” has on the soul because of the fact that honey resembles bile, something which makes the soul reject honey and pull away from it. /  

The majority of people proceed toward what they perform, and abstain from what they dispense with, in a manner produced by this type of movement of the soul and not in accordance with reflection or opinion.  

Text: 'alā annahu (since it is).
Propositions involving assent — whether of the primary type and the like, or of the widely-known — may leave the same effects of moving or distressing the soul, and of having the soul approve their coming to it, as do imagined propositions. But they are primary and widely-known under one consideration, and imagined under another. 37

It is not necessary that all imagined propositions be false, as it is not necessary that widely-known propositions and those that oppose the propositions which must be accepted38 be inevitably false.

In short, a moving imagined statement depends on the element of astonishment which it produces either by [1] the goodness of its disposition, [2] the force of its truth, [3] the force of its notoriety, or [4] the goodness of its resemblance. But we reserve the name "imagined propositions" for those which leave an effect [on the soul] by resemblance. These may move the soul by dispositions external to assent.

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Chapter Two. A follow-up

We say that the name "admission" is said of the state of propositions, inasmuch as they are posited as principles39 and give a judgment in just any manner.

Admission may be produced by the primordia intellect, by public agreement or by the just [opinion] of the opponent.

37 That is, primary and widely-known propositions are such, inasmuch as the former is axiomatic and the latter is generally acknowledged. But if in addition to being what they are, these propositions move the soul either toward or away from something, then they are also imagined. However, to say that primary and widely-known propositions can become imagined is not to say that they become identical with the purely imagined propositions. For the basic character of the latter consists of moving the soul, while this is something added to the basic character of the former.

38 I.e., the estimative propositions.

39 Wa’dan.
by virtue of a similar one concerning another particular thing with
which the former agrees by a common idea. / Our contemporaries
called that about which the judgment is made "branch." 5 that which
resembles it "fundamental" 6 and that which is common to the two
"idea" or "cause." 7 But this too is weak. 8 What mutes the analogy is
that the common idea is the cause or sign for the judgment about
what is called "fundamental." / 

370 As for the syllogism, it is the underpinning [of the proof]. The
syllogism is a discourse composed of statements. If the propositions
which the syllogism involves are admitted, 9 this by itself necessarily
leads to another statement. /

372 If the propositions are given in something like what is called
"syllogism," "induction" or "analogy," then they are called "premis-
es." A premise, therefore, is a proposition which has become a part
of a syllogism or [of another type of proof].
The essential parts of what is called "premise," which are the
remainders after the analysis to primary single elements and which
are the smallest parts of which the proposition is composed, are called
"terms." 10 / Here is an example: "Every C is B; every B is A; from
this it follows that every C is A." 11 Each of our statements, "Every C
is B" and "Every B is A," is a premise. C, B and A are terms. The

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8 Far`in.
9 Aylan.
10 Man`un wa-s`illa.
5 That is, like induction, analogy is a weak form of proof. In fact it is considered by
Ibn Sina to be the weakest form of proof, since its subject is an individual; and as
mentioned, only arguments with universal subjects must be employed in the sciences
(see Introduction, p. 13).
6 Even though it is true to say that if the propositions contained in the syllogism are
admitted, they necessarily lead to another proposition, Ibn Sina makes clear (Qd., Part I,
p. 373) that it is not a condition of the syllogism that its propositions be admitted.
Rather, its condition is that if its propositions are laid down, even by somebody who
does not believe they are true, another proposition necessarily follows.
7 Hadith. The meaning of "hadith" is "imitation," from which, we assume, it has also
come to mean "definitions" — since the limits of a thing give the determination
of that thing. Compare this definition of "terms" with that of Aristotle: "I call that a
term into which the premise is resolved, i.e., both the predicate and that of which it
precedes, being being added and 'not being' removed, or vice versa." (Met. Pr., I, 1,
46b, 16-18).
8 Islamic logicians place the minor premise before the major one.

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Chapter Two. Remark: Concerning specifically the syllogism

The syllogism, as has been determined by us, is of two kinds, [1] con-
junctive 12 and [2] repetitive. 13

12 "Syllogism" is used by Ibn Sina in two senses: (1) in the sense of the premises
and the conclusion of this kind of proof, and (2) in the sense of the conjunction of the
premises alone. That Ibn Sina here uses "syllogism" in the second sense is evident
throughout the present method (see, for example, p. 379).
13 The same condition for the nature of the syllogism had already been given by
Aristotle: "A syllogism is discourse in which certain things being stated, something
other than what is stated follows of necessity from their being so." (Met. Pr., I, 1, 24b, 18-20).
14 Iqprani.
15 Jatibah: This term has caused translators great difficulty. Some have translated
it as "exceptional" (see, for example, 1. Madkour, L'Organon d'Aristote dans le monde
arabe [Paris: Vrin, 1934], p. 203; and The Propositional Logic of Aristotle, trans. N.
Shehawy [Dordrecht: Boston, 1973], p. 5) or as "exclusion" (al-Farabi, Short
 Commentary, trans. Rescher, pp. 75ff.). This is the literal meaning. But this translation
has often rendered the original text either very hard to understand, or in some cases
sensational. The following is an example of this.
16 Every disjunctive conditional [syllogism] whose alternatives are complete [as
such that] when either one of them [viz., the two alternatives] is 'excluded,'
the conclusion agrees with the opposite of the other alternative; and if the opposite of
either one of them is 'excluded,' then this yields the other alternative itself." (al-Farabi, Short
Others, such as Gichon, have rendered it as "hypothetical" (Dir. Rem., p. 194).
But first, not all repetitive syllogisms are hypothetical; some are disjunctive (see the
English Method. Chapter 3). Second, this name has nothing to do with the name
"zatibah," given to this kind of syllogism by Ibn Sina. And third, Ibn Sina is at pains
[1] The conjunctive syllogism is one in which there is no explicit mention of either one of the extreme contradictories, incorporating the conclusion. Rather, it has this in potentiality only as the above-mentioned example shows.17

[2] As for the repetitive syllogism, it is one in which there is an explicit mention of that. This is exemplified in saying, "If 'Abd al-Lāh is rich, he is not unjust; but he is rich, therefore, he is not unjust." Thus, you find in [this] syllogism [an explicit mention of] one of the two extreme contradictories, incorporating the conclusion — this is the conclusion itself.18 Another example of the repetitive syllogism is, "If this fever is the fever of a day, it does not produce a great change in pulse; but it has produced a great change in pulse, it follows that it is not the fever of a day." Again you find in [this] syllogism [an explicit mention of] one of the two extreme contradictories, incorporating the conclusion — this is the contradictory of the conclusion.19

To show that conditional syllogisms, some of which are hypothetical, can be conjunctive (Ish., Part I, p. 375). In fact, he is quite critical of those who fail to understand that both predicative and conditional syllogisms can be conjunctive. Thus, even though some hypothetical syllogisms are repetitive, it is not because they are hypothetical that they are such. By now it should be clear why translating "幻例" as "hypothetical" is highly misleading. It is also interesting to note that Geicke translates "幻例" (the minor premise which is a repetition of one element in the major) as "chetaic" (chosen) (p. 194, note 6).

In his article, "The Term "Ititha" in Arabic Logic," Kwame Gyekeye says: "We should recall an earlier statement that 'repetition' used in the Hebrew translation for "ititha", namely μεθείσασθαι, reflects the root of the Arabic word َثِمُطُ - means 'to repeat,' 'to do twice' (Webb). We know, of course, that the minor premise (i.e., the additional assumption: προληπτικά, πρασθένα, αλλα-μαθημα) is a repetition of one part of the major premise." Journal of the American Oriental Society, 92 [January-March 1972], 82-92.

Following Gyekeye's interpretation, which seems most reasonable, we have translated "幻例" as "repetitive syllogism." 18

[17] I.e., the example given on p. 373.

[18] I.e., "He is not unjust" whose contradictory is "He is just." 17

[19] I.e., "This fever is the fever of a day." The last two examples are of the same type of repetitive syllogism, namely that which includes a connective conditional proposition. This type, as well as others, together with the rules for their validity, will be discussed in the Eighth Method, Chapter 3.

Conjunctive syllogisms may consist of simple predicative propositions, simple conditional propositions, or they may be composed of the two. Those which consist of simple conditionals may be formed of simple connective propositions, simple disjunctive propositions, or they may be composed of the two. As for the majority of logicians, they have paid attention to predicative syllogisms only, thinking that conditional syllogisms can only be repetitive.

We will mention predicative syllogisms with their various types. 19

/ This will be followed by [a discussion of] some conditional conjunctive syllogisms, which are most used, and which have the strongest hold on our natures. After that we will [treat] repetitive syllogism. And finally we will mention some states which the syllogisms undergo, and the syllogism by contradiction. We will limit ourselves in this summary to this much.

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Chapter Three: Remark: Concerning specifically the conjunctive syllogism

In the conjunctive syllogism, you find a repeated common thing which is called "middle term," such as B in the preceding example.20 In it you also find something proper to each of the two premises, such as C in one of the premises of our example, and A in the other premise. And you find the conclusion, obtained only by the union of these two extreme terms, where we say, "... from this it follows that every C is A." / What becomes the subject of the conclusion or the antecedent, such as C in our example, is called "minor term." And what becomes the predicate of the conclusion or the consequent, such as A in our example, is called "major term."

The premise which has the minor term is called "minor premise." 17

The premise which has the major term is called "major premise." And the composition of both is called "conjunction."

The form of composition according to the manner of positing the middle term in relation to the two extreme terms is called "figure." And the conjunction which yields a conclusion is called "syllogism."

20 I.e., the example mentioned on p. 373.
Chapter Four. Remark: Concerning the various types of predicative conjunctive syllogisms

The divisions [of this type of syllogism] require that the middle term be either: [1] a predicate of the minor premise and a subject of the major one, [2] the converse of this, [3] a predicate of both the minor and the major premises, or [4] a subject of both of them. / 385

As the first division, called "the first figure," had been found perfect with much goodness inasmuch as its syllogistic character, i.e., the necessity of yielding a conclusion, is evident in itself and not in need of a proof – the converse of this division has been found remote from our nature. Giving evidence for its syllogistic character, i.e., the necessity of drawing a conclusion from it, requires a doubly-hard effort. And its syllogistic character does not present itself to the mind and nature. / 386

As for the other two divisions, even though their syllogistic character is not evident, they are of the syllogisms that are within the reach of our nature. The normal nature can grasp their syllogistic character before evidence for that is given. Or the evidence for that is presented to the mind by the mind itself, and thus the reason for their being syllogisms is closely attended to. That is why these two divisions became accepted, while the converse of the first one had been rejected. Thus the figures of the predicative conjunctive syllogism that are recognized became three in number.

In these three figures, no conclusion can be drawn from two particular propositions. As to whether a conclusion can be drawn from two negative propositions, a consideration of this will be presented to you later on. / 387

Chapter Five. The first figure

In order for this figure to be a syllogism whose conjunction leads to a conclusion, it must [1] meet the condition of having a minor premise which is affirmative or of the same order as the affirmative. If it is possible or concrete, it is true in affirmation as it is true in negation. / 388

And its minor term is subsumed under the middle one. [2] Also its major term must be universal so that its judgment could be carried over to the minor term since it is common to all that is subsumed under the middle term.

That the syllogistic conjunctions of this figure lead to conclusions is evident. / Thus if "Every C is B" and then you say, "Every B is, by necessity or otherwise, A," it follows that "Every C is also A." — [with the conclusion having that mode]. / 389

Similarly, if you say, "By necessity, or otherwise, nothing of B is A," then no doubt the judgment is carried over to C. Again, if you say, "Some C is B," and then you impose on B any kind of judgment — be that negative or affirmative — after being common to every

21. This figure has become known as Galen's fourth figure. But whether Galen was the first to admit it still remains a matter of controversy.
23. For Ibn Sina, the perfection and the imperfection of syllogisms require the same conditions posited by Aristotle before: "I call that a perfect syllogism which needs nothing other than what has been stated to make plain what necessarily follows; a syllogism is imperfect if it needs either one or more propositions which are indeed the necessary consequences of the terms set down, but have not been expressly stated as premises" (Anal. Pr., 1, 1, 24b, 22-24b).
24. Bal'dar is on two parts: in the sense that its syllogistic character is not grasped by the mind directly.
25. The third and fourth figures are reduced to the first, which is the only perfect figure, by conversion of one of the premises. But in order to reduce the second figure to the first, both premises must be converted. This is what is meant by saying, "... requires a doubly-hard effort."
26. That is why the figure in which the middle term is subject of the minor premise and a predicate of the major one is admitted by Ibn Sina, but is cast aside as not worthy of consideration.
27. Ibn Sina's response is "Yes, if one of the negative premises implies an affirmative one" (see p. 396 of the present method).
28. The first syllogism of the first figure is AAA (Barbara).
   (n): All C is B
   (m): All B is A
   (c): All C is A

29. I.e., that of the major premise, be it necessity or any other mode.
30. This is the second syllogism of the first figure: EAE (Celarent).
   (n): All C is B
   (m): No B is A
   (c): No C is A
B, then this judgment is carried over to this some of C which is B. Thus the syllogistic conjunctions of this first figure are these four: that is, if every C is, in some manner of being, B in actuality. / But if every C is B in possibility, then the judgment must not be carried over from B to C in an evident manner. However, if the judgment about B is in possibility, then there is a possibility of a possibility which is close to being known by the mind as a possibility. For it is within the reach of our nature to judge that the possible of a possible is possible. / If every C is B according to the real and proper possibility, and if every B is A absolutely, then it is permissible that every C is A in actuality, and it is permissible that it is so in potentiality. And what is common to both must be the possible, in the general sense. / If every B is A by necessity, then the truth is that the conclusion is necessary. / To show this, let us slight a closer aspect. Thus we say, "Because C becomes B, it is then judged as necessarily having A for a predicate." This means that A cannot be removed [as the predicate] of C, as long as the essence of C exists; and not that it cannot be removed as long as C is B only. If C is judged as A when it is B only and not when it is not B, then the statement. / "Every B is by necessity A." is false, as you know. Because what it means is that everything described as B, always or not always, is described by necessity as A as long as its essence exists, be it B or not. / If the minor premise is possible or absolute and the negative is true with it, then it is permissible for it to be negative and to produce a conclusion. Because what negates the real possible implies what affirms it. Thus the conclusions of the syllogism of this figure follow in every case, in their quality and mode, the major premise, except if the minor premise is possible, in the proper sense, and the major concrete – then the conclusion is possible, in the proper sense – or if the minor premise is affirmative and necessary and the major absolute, in the general sense – then the conclusion is affirmative and necessary, except in a case which will be mentioned later. Do not pay attention to what is said, namely that the conclusion follows the inferior of the two premises in every thing, but in quality and quantity [only], with the exception that has been mentioned. / You must know that if the minor premise is necessary and the major purely concrete, belonging to the genus of the concrete, in the sense that as long as the subject is qualified by that with which it is qualified, no syllogism with true premises is formed. For the major premise is false, since if we say, "Every C is by necessity B," and then say, "Every B is qualified as A, as long as it is qualified as B, and not always," we judge that all that which is qualified as B is qualified thus, only at a certain time, and not always. This is opposite the minor premise. Rather, the major premise must be more general than this and than the necessary. / In order for it to be true. But then the conclusion is necessary, and does not follow the major premise. / This, too, is an exception. It is necessary only because C endures as B, thus enduring by necessity as A. 

Chapter Six. Remark: Concerning the second figure

You must know that the truth regarding the second figure is that in it there is no syllogism constituted of two absolute propositions with common application, of two possible propositions, or of a mixture of both. Further, there is no doubt that in it there is no syllogism

The third and fourth syllogisms of this figure are, respectively, as follows:

| All (Darûb) | (m): Some C is B | (Mh): All B is A |
|________|________________|________________|
| (Ch) Some C is A |

| EIO (Ferhûb) | (m): Some C is B | (Mh): No B is A |
|________|________________|________________|
| (Ch) Some C is not A |

11 The third and fourth syllogisms of this figure are, respectively, as follows:

12 Text: mwâdi' (place).

13 Text: wa-saâhîrâ muqâlâa khâdisa salîba wa-wâhîrâ muqâlîba darîyîn (or the minor absolute, in the particular sense, and negative; and the major affirmative and necessary).

14 See pp. 399-402 of the present method.

15 E.g., in quantity, quality and mode.

16 I.e., not in mode.

17 I.e., than the purely concrete.

18 This is the third of the exceptions (promised us p. 397) to the rule that the conclusion follows, in its quality and mode, the major premise. The other two exceptions were mentioned on pp. 396-397.
consisting of two affirmative, or two negative absolute propositions, or of two possible propositions, in whatever manner.

First, the disagreement is concerned with the two absolute propositions only. The commoners believe that if they differ in negation and affirmation, a syllogism, therefore, may be formed of them. But our view is different. / [Second], concerning the pure absolute propositions and the possible ones, the disagreement is the same. In the second figure, there is no syllogism constituted of them according to us. That is, because one thing or rather two things, of which one is the predication of the other, may have something predicated of one of them or both in an absolute affirmation or negation in an absolute negation. And it may be affirmed and negated at the same time of every individual falling under one of the concepts or of the individuals of the two things of which one is predicated of the other. Nothing of this requires that the thing be negated of itself / or that one of the two things be negated of the other. All of this may occur to the two things, of which one is negated of the other, without requiring that one of the two be a predicate of the other. From what has preceded, it follows that neither negation nor affirmation is attained. And thus no conclusion can be drawn. / What is used by them as a proof for drawing a conclusion from two absolute propositions, different in quality and of which the major premise is universal, is something that will be mentioned later. There is discontinuity between propositions that are absolute, in a general sense, and those that are concrete, in a general sense. What one can rely on [for demonstrating the second figure] is either conversion, and neither of them converts in negation, or contradiction, by employing a contradiction. But the conditions of a contradiction are not applicable to these propositions. / Rather, in this figure syllogisms are formed of absolute premises, of which one is affirmative and the other negative, only if the negative premise meets the condition of converting, or of having a contradictory of its type. You know which negative absolute propositions are such.

Thus if there is here a composition of two absolute propositions, of two necessary ones, or of an absolute proposition, with common

406 application, and a necessary one, / the condition is that the two propositions differ in quality – the major premise being universal – and the judgment is of the mode of the converted negative proposition.

The first mood of the second figure is something like the phrase, “Every C is B, nothing of A is B, therefore, nothing of C is A.” / 408 Since we convert the major, making it “Nothing of B is A,” and then add to it the minor premise, thus forming the second mood of the first figure. The conclusion is of the mode of the major premise.

The second mood of this figure is something like the phrase, “Nothing of C is B, every A is B, therefore, nothing of C is A.” / 411 Since we convert the minor premise, we then conclude, “Nothing of A is C.” After that we convert the conclusion. Also the conclusion takes the mode of the negative [premise]. If it is an absolute proposition, that to which it is converted is also absolute.

The third mood of the present figure is like the phrase, “Some C is B, nothing of A is B, therefore, some C is not A.” / 414 Find evidence for this from what you already know. / 415

409 The first syllogism of the second figure is: EAE (Cesare):

\[ (m) \quad \text{All C is B} \]
\[ (m) \quad \text{No A is B} \]
\[ (c) \quad \text{No C is A} \]

By converting the major, this syllogism is reduced to the second syllogism of the first figure: C (Cesare).

410 Al-’Ibra.

411 The second syllogism of the second figure is: AEE (Camenes):

\[ (m) \quad \text{No C is B} \]
\[ (m) \quad \text{All A is B} \]
\[ (c) \quad \text{No C is A} \]

By converting the minor and the conclusion, this syllogism is also reduced to the second syllogism of the first figure: E (Camenes).

412 Al-’Ibra.

413 The third syllogism of the second figure is: EIO (Festino):

\[ (m) \quad \text{Some C is B} \]
\[ (m) \quad \text{No A is B} \]
\[ (c) \quad \text{Some C is not A} \]

414 Convert the major and you get the fourth syllogism of the first figure: F (Ferio).
The fourth mood is like the phrase, “Some C is not B, every A is not B. / Therefore, some C is not A.” Or else, “Every C is A, and every A has been B, therefore every C is B.” But it has been stated that, “Some C is not B.” This is contradictory.

But for this, there is evidence other than by contradiction. Let D be the some which is of C which is not B, the nothing of D is B, and [since] every A is B, therefore, nothing of D is A. But some C is D, and nothing of D is A; therefore, not every C is A. / From this, you know that the conclusion* takes the mode of the negative [premise]. It is not possible to demonstrate this mood by conversion. Because the minor premise is a particular negative proposition, and, therefore, does not convert; and the major premise converts to a particular proposition; thus no syllogism can be formed from its conjunction with the minor one. This is so because no syllogism is formed of two particular propositions.

In addition to all of this, there is no possible proposition among the premises. If there is a mixture of a possible proposition and an absolute one, of the genus which does not convert, then what has preceded concerning the prevention of the construction of a syllogism from two absolute propositions of such a genus shows clearly the prevention of the construction of a syllogism from this mixture. But if it is of the genus which we are using now, and the absolute [premise] is negative, / then a syllogism may be constructed, if the conditions are satisfied: if the major premise is a negative universal, of the type of absolute previously-mentioned, and the possible one affirmative or negative, then [this syllogism] is reduced to the first figure by conversion or by hypothesis – thus yielding a conclusion. And the conclusion is that which you have known in the first figure. /

However, if the major premise is not negative, but affirmative, then there is no syllogism except in [a manner requiring] detailed [explication] for which there is no need here. /

To this you must compare the mixture of the necessary proposition with another if it is of this form – after you learn that in this mixture,

* The fourth syllogism of the second figure is: AOO (Baroko)
  (m) Some C is not B
  (M) All A is B
  (C) Some C is not A

* Al-firaq.
must know that the conclusion\(^{46}\) retains the mode of the major premise only, as has been\(^{47}\) determined in the first figure, along the lines described. / 

426 The syllogism which is demonstrated by the conversion of its minor premise is clear. As for the syllogism which is demonstrated by the conversion of its major premise, that is shown by hypothesis.

427 Suppose that some B which is A is D. Then / “Every D is A.” Thus you say, “Every D is B.” But “Every B is C.” Hence, “Every D is C.” This is joined to “Every D is A.” It follows that “Some C is A.” The mode of the conclusion is that which is necessitated by the mode of our statement, “Every D is A,” which is the mode of “Some B is A.” / 

428 Those who attribute the judgment to the mode of the minor premise believe that the minor becomes the major at the conversion of the latter, and thus the judgment would be for its mode. Then it is converted. And the mode after the conversion is that of the original. But they err, just because they believe that the conversion preserves the mode. You already know their error.

There remains the syllogism which is not demonstrated by conversion. This is one in which the major premise is a negative particular proposition – thus it does not convert – and the minor converts to a particular. / Hence no syllogism can be formed. This is demonstrated only by way of contradicition or by way of hypothesis.

The way of contradicition is to say, “If it is not the case that some C is not A, then every C is A.” But every B has been C. It follows that “Every B is A.” Yet it has been stated that “Every B is not A.” This is contradictory.

And the way of hypothesis is to say, “Let the some which is B, and not A, be D.” Then nothing of D is A. From there, you yourself complete [this], and also consider the mode of the conclusion which is necessitated by the major premise. / 

430 Thus the conjunctions of the third figure are six: [A] of two affirmative universal propositions,\(^{48}\) [B] of two affirmative proposi-

tions, the minor being particular,\(^{49}\) [C] of two affirmative propositions, the major being particular,\(^{50}\) [D] of two universal propositions, the major being negative,\(^{51}\) [E] of an affirmative particular as the minor premise, and a universal negative as the major one,\(^{52}\) [F] of an affirmative universal as the minor premise, and a negative particular as the major.\(^{53}\) These conjunctions are mentioned as five. But God is most knowing of what is correct.

Converting the minor premise by limitation, this syllogism is reduced to the third syllogism of the first figure All (Darani):

\(^{47}\) The second syllogism of the third figure is: All (Datisk):

- (m): Some C is B
- (M): All C is A
- (C): Some B is A

Through conversion by limitation of the minor premise, this syllogism is reduced to the third syllogism of the first figure: All (Darani):

- (m): All C is B
- (M): Some C is A
- (C): Some B is A

By converting the major premise and the conclusion, the present syllogism is reduced to the third syllogism of the first figure: All (Darani):

- (m): All C is B
- (M): No C is A
- (C): Some B is not A

Through conversion by limitation of the minor premise, the present syllogism is reduced to the fourth syllogism of the first figure: EIO (Ferrbo):

- (m): Some C is B
- (M): No C is A
- (C): Some B is not A

Converting the minor premise, this syllogism is reduced to the fourth syllogism of the first figure: EIO (Ferrbo):

- (m): All C is B
- (M): Some C is not A
- (C): Some B is not A

While (A) to (E) are demonstrated by conversion, (F) is demonstrated by way of contradiction or by way of hypothesis.

\(^{46}\) Al-'ibar.

\(^{47}\) Text: wa-taaw al-ta'afu (as what is).

\(^{48}\) The first syllogism of the third figure is: AAI (Darani):

- (m): All C is B
- (M): All C is A
- (C): Some B is A

\(^{49}\) The fifth syllogism of the third figure is: EIO (Ferrbo):

- (m): Some C is B
- (M): No C is A
- (C): Some B is not A

\(^{50}\) The sixth syllogism of the third figure is: OAO (Bokardo):

- (m): All C is B
- (M): Some C is not A
- (C): Some B is not A

\(^{51}\) The seventh syllogism of the third figure is: EIO (Ferrbo):
The Eighth Method

ON CONDITIONAL SYLLOGISMS. AND ON WHAT FOLLOWS THE SYLLOGISM

Chapter One. Remark: Concerning conditional conjunctive syllogisms

We will mention some of these syllogisms, leaving aside those of them which are not grasped by us naturally, after having treated all of them sufficiently in *ash-Shifa* and in other works of ours.

We say that of the conditional conjunctive syllogisms three figures may be formed. These are similar to the figures of the predicative syllogisms. They have in common a consequent / or an antecedent, and they differ in a consequent or an antecedent as do the figures of the predicative syllogisms, the latter has in common a subject or a predicate, and they differ in a subject or a predicate. Also the rules [governing these figures] are the same as those [governing the predicative ones]. / The community [of an element] may occur between a predicative proposition and a disjunctive one, as in your saying, "Two is a number; and every number is either even, or it is odd." From what has preceded, it is easy to infer the rules for this.

Also a disjunctive proposition and a predicative one may have [an element] in common, as your saying in this sense, "Let / A be either B, C or D; and every B, C and D is E; therefore, every A is E." From what has preceded, it is also easy to infer the rules for this.

Further, a conjunction may be formed of a connective conditional proposition and a predicative one. Of this he easiest to grasp naturally is [that in which] the predicative proposition shares the consequent with the affirmative connective conditional, in one of the manners in which the predicative propositions share [the predicate].

But the conclusion, then, is a connective conditional whose antecedent is that antecedent itself, and whose consequent is the conclusion of the composition of the consequent which was conjoined in the predicative proposition. An example of this is "If A is B, / then every C is D, and every D is E." It follows from this that "If A is B, then every C is E." It is for you to enumerate the rest of the divisions from what you already know.

Such a composition may be of two connective conditional propositions, each of which shares the consequent of the other, if that consequent is also a connective; / and its syllogism is the same as that.

A complete discussion of conditional connective syllogisms is not appropriate in a summary like this.

Chapter Two. Remark: Concerning the syllogism of equals

Some things concerning the judgments of the premises may be known, yet left out. And the syllogism is built in a form different from [that of the perfect] syllogism. An example of this is "C is equal to B, and B is equal to A; therefore, C is equal to A." But "what is equal to some thing, which is equal to another, is equal to that other" has been left out of this. In the syllogism, certain aspects that require community in the whole of the middle term are substituted for the community in a part of it.

Chapter Three. Remark: Concerning repetitive conditional syllogisms

Repetitive conditional syllogisms are either:

[1] one in which there is a connective conditional, and what is repeated is either [A] its antecedent itself, thus giving the consequent itself as a conclusion. An example of this is "If the sun is out, then the stars are hidden; / but the sun is out, therefore, the stars are hidden." Or [B] the contradictory of its consequent, thus giving the contradictory of the antecedent as a conclusion. An example of this is saying, "... but the stars are not hidden." Thus the conclusion is

[1] Text: *la* *qarib* *min* *a*-*jah* (what is not close to the nature).

[2] *Al-mutandal.* This is the same term used for "connective conditional."

[3] Text: *agu* *d* *yak* *min* *dd* *il* *l*-*jah* (what is closest to the nature).

[4] Text: *musawi* *al-*musawi *musawi* (an equal is equal to an equal).
"Therefore, the sun is not out." Nothing other than this is concluded. / 450

2 Another in which there is a real disjunctive proposition, and what is repeated is either [A] whichever [part] of the disjunctive, thus giving the contradictory of the other parts as a conclusion. An example of this is: "This number is either complete, excessive or deficient: but it is complete." Thus the conclusion is the contradictory of the remaining [parts]. Or [B] what is repeated is the contradictory of which ever [part] of the disjunctive, thus giving what remains itself - be that one or more [parts] - as a conclusion. An example of this is: "... but it is not complete, therefore, it is either excessive or deficient." [and so on], until the repeatable elements are exhausted. There remains one division.

3 Or one in which there is a non-real disjunctive proposition, / 451 which is either [A] preventive of exclusion only. Repeating the contradictory [or a part] gives the other part itself as a conclusion. Here is an example: "Either Zayd is in water, or he is not drowned: but he is drowned, therefore he is in water." [Or] "... he is not in water; therefore, he is not drowned." Another example is: "Either this is not an animal, or this is not a plant; but it is an animal; therefore, it is not a plant." Or "... it is a plant; therefore, it is not an animal." Or [3B]. The disjunctive proposition is of the genus which is intended to prevent the union [of the parts] only, but it permits the elimination [of all the parts] together. A group of people have called it "the incomplete disjunction or conflict." Thus repeating [a part] of it yields only the contradictory of / the rest. This is exemplified in your

452 saying, "Either this is an animal, or it is a tree," in answering him who says, "This is an animal, [and] this is a tree." 10

Chapter Four. Remark. Concerning the syllogism by contradiction

The syllogism by contradiction is composed of two syllogisms, one of which is conjunctive and the other repetitive. An example of this is "If it is not the case that our statement, 'Every C is B,' is true, then our statement, 'Every C is B,' is true." / But every B is D, which is an evident premise, concerning which there is no doubt or which was made evident by a syllogism. The conclusion that is drawn from this is: "If it is not the case that our statement, 'Every C is B,' is true, then it is the case that every C is D." Then we take this conclusion and we repeat the contradictory of the impossible, i.e., the consequent. Thus we say, "But every C is D." The conclusion is, then, the contradictory of the antecedent which is "(not) it is not the case that our statement, 'Every C is B,' is true." /

457 As for how the predicative direct syllogism leads to [the syllogism] by contradiction, and how the latter leads to the former, this is [a subject] for another investigation which treats of the state of the conjunction between the consequent and the predicative proposition.

458 / But for that, there is no need at the present. It turns on taking the contradictory of the impossible conclusion and joining it to the true premise, concerning which there is no doubt, thus giving the impossible antecedent as it is, as a conclusion.

10 A completion of this syllogism is either "... this is an animal; therefore, it is not a tree," or "... this is a tree; therefore, it is not an animal."
The Ninth Method

IN WHICH A BRIEF EXPLANATION
OF THE DEMONSTRATIVE SCIENCES IS GIVEN

Chapter One. Remark: Concerning the various types of syllogisms, with respect to their matters and their production of assent.

Demonstrative syllogisms are composed of premises that must be accepted. If these premises are necessary, the conclusion drawn from them is necessary, in the manner of their necessity; if, and if they are possible, the conclusion drawn from them is possible.

Dialectical syllogisms are composed of widely-known propositions and determined ones, be they necessary, possible or impossible.

Rhetorical syllogisms are composed of presumed propositions, received ones, which are not widely-known, and those resembling them, be they what they are, even if impossible.

Poetical syllogisms are composed of imagined propositions, inasmuch as their imagined aspect is considered, be they true or false. In short, they are composed of premises, inasmuch as these premises have a certain disposition and composition, which the soul receives by virtue of their resemblance or by virtue of their truth. That is, as long as there is nothing to prevent this reception. And meter enhances this reception.

463 Do not pay attention to what has been said, namely that the demonstrative syllogisms are necessary, that the dialectical ones are possible in the majority of cases, that the rhetorical ones are possible in equal cases, that they involve neither inclination nor rarity, and that the poetical ones are false and impossible. This is not the [proper] consideration; nor did the father of logic indicate it.

As for sophistical syllogisms, they employ a proposition resembling others to which an experiential critical one is joined for the purpose of producing error. If the resemblance is to necessary propositions and the manner of their usage, the syllogizer is called “a sophist”; and if it is to widely-known propositions, the syllogizer is called “an agitator” and “a disputor.” The agitator is the opposite of the dialectician, and the sophist is the opposite of the sage.

464 Msünkna akhariyya. An example of this is the possibility of the growth of a beard for a man.

Msünkna mawāsyya, such as the possibility for middle-aged men to become bald.

I.e. they are neither inclined in the direction of occurrence, nor away from it toward rare occurrence. In other words, the chance of their occurrence is fifty-fifty.

I.e. Aristotle.

4 In this chapter Ibn Sīnā seeks to distinguish a demonstrative argument from other types of arguments. Five types of arguments are mentioned:

1. A demonstrative argument is characterized in having a certain conclusion, and which seeks to produce assent.

2. A dialectical argument may or may not have a true conclusion: after all, truth is not of its concern. Rather, its main concern is to defeat the opponent. And this may be achieved by the mere fact that the propositions are generally acknowledged. Like demonstration, a dialectical argument seeks to produce assent, but the cause of the assent in both is different: in the former, it is the certain truth; in the latter, it is the generally acknowledged information.

3. A rhetorical argument resembles the previous two in that it seeks to produce assent. But it differs from them in that it makes no explicit claim, whether to what is generally acknowledged, or to anything else – it simply makes no assertion.

4. A poetical argument differs from the previous three in that it does not seek assent: yet it is received in the soul by virtue of its resemblance or truth.

5. A sophistical argument is one which seeks to produce assent, not by virtue of being true or generally acknowledged, but by virtue of resembling the true and the generally acknowledged.

Thus of these five types of arguments, only the first is scientific for it is the only one of whose truth we are assured. The second, third and fourth may be true, but they are not scientific, for science cannot rely on maybes, but only on certitude. Finally, the fifth is never true.

4 A demonstration is a syllogism with a certain (usqīnyis) conclusion drawn from certain premises (Nāj., p. 66).

5 Recall the various types of necessity, elaborated in the Fourth Method, Chapter Three. If the necessity of the premises of a demonstration is unconditional or absolute, then the necessity of the conclusion is the same. And if the necessity of the premises is conditioned whether by the existence of the essence or otherwise, then the necessity of the conclusion is of the same type.

6 As you may recall, there are, according to Ibn Sīnā, two kinds of determined propositions: that which is determined by the interlocutor, and that which is employed in the sciences (p. 356). Since dialectical syllogisms are not scientific, it must be the case that the former kind of determined propositions is intended here.
Chapter Two. Remark: Concerning the syllogisms and the demonstrative inquiries

The scientific inquiries may be the result of the necessity of a judgment, the possibility of a judgment, or the absolute existence, in a non-necessary sense. / as is the knowledge of the states of the conjunction and opposition of the stars. Every genus [of these inquiries] has its proper premises and conclusion. Similarly, the demonstrator infers the necessary from the necessary, and the non-necessary from the non-necessary, be that mixed or pure. / Therefore, do not pay heed to him who says that the demonstrator does not employ, except necessary propositions and those that are possible in the majority of cases, without others. Rather, if he wishes to infer the truth of a possible in a minority of cases, he uses the possible in a minority of cases. / And in every type of inquiry appropriate [premises] are used. Nothing but this has been stated by earlier scholars, but in a manner overlooked by recent ones. That is the earlier scholars said that in demonstration the necessary conclusion is inferred from necessary propositions, / and in other than demonstration it may be inferred from non-necessary propositions. Nothing was intended but this. Or what was intended was that the premises of the demonstration is, in their necessity, possibility or absoluteness, a necessary truth. When “necessary” is stated in the book On Demonstration, what is intended by it is that which is common to the necessary, mentioned in the book / On the Syllogism, and that whose necessity endures as long as the subject remains qualified by that which qualifies it, and not the pure necessary. / In the premises of the demonstration, essential predicates are used, under the two aspects [mentioned] earlier, attributed to the “essential” in the premises. / But in the inquiries, the constitutive essentials are never sought. You have already learned this, and learned the error of him who opposes it. Rather, [in them], the essentials are only sought in the other sense.

* I.e., absolute or unqualified necessity.
10 I.e., absolute or unqualified necessity.
11 I.e., whether the premises are a mixture of necessary and necessary propositions, or non-necessary propositions only, the conclusion is non-necessary.
12 Munkino epiklyne, such as the possibility for women to go bald.
13 In other words, a demonstration is not necessarily one in which a thing is shown to have a 100% chance of occurring (necessary) or that it has somewhere between a 50% and a 95% chance of occurring (possible in the majority of cases), but also one in which a thing can be shown to have even a 1% chance of occurring (possible in a minority of cases).
14 I.e., Aristotle.
15 I.e., Anal Post.
16 I.e., Anal Pr.
Chapter Three. Remark: Concerning the subjects, principles, questions [and transference of demonstrations] in the sciences

For every one of the sciences, there is one or more things appropriate to it and whose state or states we investigate. These states are the essential accidents, and the thing is called "the subject" of that science such as proportions for geometry.

Further, for every science there are principles and questions. The principles are the definitions and the premises of which the syllogisms of the science are composed. The premises are either [1] propositions that must be accepted, [2] propositions that are admitted by virtue of confidence in the teacher—which are given in the preface to the science, or [3] propositions that are admitted for the time being, and until they are made evident, concerning these there is doubt in the student's soul.

As for the definitions, they are like the definitions which are given of the subject of a discipline, of its parts and of its particulars, if it has any, and like the definition of its essential accidents. These too are given in the preface to the sciences.

The propositions that are admitted by virtue of confidence in the teacher—and the definitions may be grouped under the name "assumption," and thus they are called "assumptions." Of these the admitted propositions are properly called "posed principles." And "postulates" is the name given to admitted propositions under the second aspect. If a certain science has posited principles, these must be presented at the beginning, as an introduction to the science.

As for the propositions that must be accepted, there is no need for enumerating them. But the named "disciplines" may be reserved for them. These must be presented at the beginning of the totality of the premises. Thus the demonstration for any posited principle in a science is drawn from another science.

Chapter Four. Remark: Concerning the correspondence of the sciences

You must know that if the subject of a certain science is more general than that of another science, [it is such] either [1] under the aspect of determination, that is, [A] by having one of them, the more general, as a genus for the other; [B] by having the subject in one of them, [in] the more general, taken in an absolute sense, and in the other as restricted by a peculiar state. / It is customary to call the more particular, a subject subordinate to the more general. An example of the former is the science of solids under geometry. And an example of the latter is the science of movable spheres under the science of spheres. And both aspects may be united in one whose more appropriate name is "subordinate subject." An example of this is the science of perspectives under the science of geometry. / [2] The subject of a certain science may be different from that of another science, but it is considered inasmuch as it has appropriate...

28 According to Aristotle, type (1) of these premises has been demonstrated. And types (2) and (3) are not yet demonstrated but are demonstrable. "Hypothesis" is the name he gives to type (2), and "illegitimate postulate" is the name he gives to type (3) General Post., I, 103.
29 For they have already been enumerated in the Sixth Method.
30 "Al-waqf".
31 See note 29 for deleting "transference of demonstrations."
32 I.e., in terms of the essence.
33 I.e., A and B.
34 Text: khäs. We have avoided translating this as "proper" or "peculiar" since what is said to pertain to the subject of a science cannot be said to be proper or peculiar to another.
accidents that pertain to the subject of that science. And thus it is also a subject subordinate to that science. This is exemplified in music under the science of arithmetic.

Most of the posited principles in a particular science which is made subordinate to another are nothing but true in the universal science which is made superior to it. For often the principles of the superior universal science are true in the subordinate particular one. A science may be superior to one science, and subordinate to another. This leads to the science whose subject is the Existent inasmuch as it exists, and which investigates its essential attributes. This is the science called "first philosophy."

Chapter Five. Remark: Concerning causal demonstration and factual demonstration

If the middle term is the cause in the thing itself for the existence of the judgment which is the relation of the parts of the conclusion to each other, then the demonstration is a causal demonstration, since it gives the cause of asserting to the judgment, and the cause of the existence of the judgment. Thus it gives the cause with no restriction.

If the middle term is not such, but is the cause of the assent only—thus giving the reason for the assent without giving the reason for the existence of the judgment—then the demonstration is called "factual demonstration," since it indicates the "actuality" of the judgment in itself, without its cause in itself.

If, in the factual demonstration, the middle term, in addition to not being a cause of the relation of the two terms of the conclusion, is an

Chapter Six. Remark: Concerning the questions [in the sciences]

Of the principal questions, there are

[1] the question, "Is the thing, absolutely?" or "Is it in such and such a state?" He who asks this question asks about one of the two contradictory extremes.

[33] Burkhin ima wa-burkhin inna. In the former, the middle term is the cause of the relation of the two terms of the conclusion, both in the mind and in external reality. This type of demonstration does not only tell us that a thing is but also why it is, hence the name "ima" (reason, or cause). In the latter, on the other hand, the middle term is the cause of the relation of the two terms of the conclusion, but only in the mind. This type of demonstration gives us no information about the cause or the thing in external reality, but only that it is. Hence the name "inna" (that it is, or fact). This distinction between causal demonstration and factual demonstration is analogous to the distinction drawn by Aristotle between knowledge of the reasoned fact and knowledge of the fact (Met., Post., I, 13).

[34] I.e., in external reality.
The question, "What is / the thing?" By this question, one may ask about what the quiddity of the thing is, or about what the comprehension of the name used is. The question, "What is the thing?" must precede the question, "Is it?" if what is indicated by the used name, regardless of the manner of its existence, is not a comprehended term in the question – an explication of the name in the question is then sought. If existence is verified for the thing, that itself becomes a definition of its essence, or a description, if it is permissible for it [to have a definition or a description].

The question, "Which thing is it?" This question is also considered among the principal questions. By this question, one seeks to distinguish the thing from other things. And

The question, "What is the reason for the thing?" In this question it is as if one asks about what the middle term is, if the purpose is to obtain assent only, by the answer to the question, "Is it?" or about what the cause is, if the purpose is not the assent by that only – and in whatever manner – but the search for the cause in the thing itself. / There is no doubt that this question is posterior in order to the question, "Is it?" whether in potentiality, or in actuality.

Among the questions, there are also

- "How is the thing?"
- "Where is the thing?" and
- "When is the thing?"

These are particular questions that are not among the principal ones. Rather, one declines to consider them among the principal questions. Often they are dispensed with by using instead the question, "Is it?" – in the compound form / if these "how," "where," and "when" are discerned, yet without knowledge of their relation to the subject whose state is in question. But if these are not discerned, then the question, "Is the thing?" cannot replace these.


[4] i.e., if the thing is not simple.

[5] i.e., in external existence.

[6] It is only after you know whether a thing exists or not that it makes sense to ask.

[7] "Why does it exist?" or "Why does it not?"

[8] An example of the question, "Is the thing?" in the compound form is "Is George at school?" This is to be contrasted with the question, "Is the thing?" in a simple form, which is exemplified by "Does George exist?"
The Tenth Method

ON FALLACIOUS SYLLOGISMS

Error may occur either [1] because of the syllogism. That is [A] when what is claimed to be a syllogism is not one in its form — when it is not under the form of a figure which yields a conclusion; [B] when it is a syllogism in its form, but it yields a conclusion other than the one sought; / [C] when what is not a cause had been posited in it as a cause; or [D] when it is not a syllogism with respect to its matter. That is, it is such that if the necessary in its matter is taken into consideration, its form is then corrupted. And if what it involves, in the previously-mentioned manner, is admitted, it is a syllogism, but one which must not be admitted. Thus if one considers the ambiguity of the states of the middle term in the two premises, and the states of the two extremes in them, and the conclusion, then its admission is not necessary. Hence even though it is a syllogism in its form, still it must not be accepted. You have already learned the difference between the two. [The syllogism in which] what is not a cause is posited as a cause is of this sort. [1] And [E] begging the question [2] is also of this sort. [1] This error occurs when two of the terms of the syllogism are two names with one meaning, while they must have different meanings. Thus if in the syllogism attention is paid to its form, and then to the state of its matter which we have indicated, no error occurs, because of ignorance / of the composition, to positing what is not a cause as a cause or to begging the question. / That is if [for the error that is due to the syllogism].

[2] Error may occur in a syllogism which must be admitted but it is due to a cause in the premises, taken one by one.

[2.A] Error may occur because of equivocation in the comprehension of the expressions, [5] whether simple, composite — as you know — or a combination of both.

[2.A.a] An example of this is the error that may occur because of passing from the expression "all" to the expression "everyone," and vice versa, thus making what belongs to "everyone" belong to "all," and what belongs to "all" belong to "everyone." / But no doubt there is a difference between all and every one of the parts.

[2.A.b] But the passage may be by way of the division of the expression, such that if the expression is true when united, it is, then, believed that it is also true when divided. An example of this is believing that, if it is true to say, "Imru' al-Qays is a unique poet," then it is also true to say, / "Imru' al-Qays is unique," and "Imru' al-Qays, the dead, is a unique poet." Thus the dead is judged to be a poet. Again if it is true that "five" is even and odd, as united, then it is true that "five" is even and that it is odd. / [2.A.c] The passage may be the converse of this. That is, if it is true that "Imru' al-Qays is a poet," and that "He is good," then it is assumed that it is absolutely true that, in any manner you please, "He is a good poet," i.e., [good] at poetry. This too fits in with that in which, in some respect, error is caused by the meaning, but due to an equivocation in the expression. And thus these are fallacies that fit in with [those due to] the expression.

[2.B] Error may occur due purely to the meaning. This is exemplified in [the error] that occurs [a] because of imagining the converse, [b] because of taking what is by accident in place of what is in essence; / [c] because of taking what follows the thing in place of

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1 I.e., the sort of error that is due to the syllogism.

2 Text: al-maqulaha 'alad al-mathlah al-arwah (postulating the first object of research at the beginning), i.e., in the premises — the first object of research being the conclusion. In this error, the conclusion is postulated at the beginning in direct demonstration: but in demonstration by contradiction, it is the contradictory of the conclusion that is given in the premises (I.e., p. 93).

3 I.e., the sort of error that is due to the syllogism.
the thing; [d] because of taking what is in potentiality in place of what is in actuality; [e] because of overlooking what attaches to predication7 that has been mentioned. / This you already know.

Thus you find that the causes of fallacies are limited to equivocation in expression, be that simple or composite in its substance; to the form and declension of the expression; and to the division of the composite and the composition of the divided. As regards [those] of meaning, [they are] imagining the converse; taking what is by accident in place of what is in essence; taking what follows the thing in place of the thing; overlooking what attaches to predication; positing as a cause what is not a cause; begging the question; and distorting the syllogism due to ignorance of its syllogistic character.8 / If you wish, you may include in the fallacies of expression, the ambiguity of declension and being indeclinable, and that of diacritical marking.9

He who pays attention to the meaning and abandons what is suggested by the expression then considers, in the parts of the syllogism, meanings and not expressions, paying attention to them as they lead to their consequences; and does not violate in them what must be repeated in the two premises; nor in what must be repeated in the two premises and the conclusion; and further, takes into consideration the figure of the syllogism; and knows the types of propositions that we have enumerated; and after that presents this to himself in the manner that he who calculates would present what he imposes on himself—repeating and reviewing—and then makes an error. / deserves to abandon wisdom and the learning of it. Everyone is directed with facility toward that for which one was created.

I ask God, the exalted, for preservation and guidance. Praise to God who is our hope and the best of protectors!

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1 Such as the mode, the quantifier, etc.
2 Notice that in this summary form and declension are said, for the first time, to be one of the sources of the fallacies that are due to the expression; and that taking what is in potentiality in place of what is in actuality is not listed as one of the sources of the fallacies that are due to the meaning.
3 *Wa-shahibh ash-shakl wa-ilam.*

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