Moses Mendelssohn
Commentary on Moses Maimonides' "Logical Terms"[1]
(Selection Translated from the Hebrew)[2]

{199} <25>[3]

PREFACE
(To the Second Edition, 1765)

The word הגיון[4] is a substantive derived from the root הגה. This root sometimes signifies the endeavor of meditation,[5] which is called by the philosophers[6] inward or mental discourse; in

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[1] The commentary appeared in three editions during Mendelssohn's lifetime: 1st edition, Frankfurt on the Oder, 1761; 2nd edition, Berlin, 1765; 3rd edition, Berlin, 1783–84. For more exact information and for everything that concerns the text, one must be referred to the Hebrew original. There it is also explained why the 2nd edition has been the basis for the text (and consequently also the translation). It should be mentioned that the preface is found only in the 2nd edition and that Mendelssohn spells out the relationship of the 2nd edition to the 1st edition at the conclusion of the preface (*Logik* 208.15ff.). {LS}

[2] For LS's German translation of Mendelssohn's Hebrew (and of Moses ibn Tibbon's Hebrew translation of Maimonides' original Arabic, which Mendelssohn uses), see Mendelssohn, "Kommentar an den *Termini der Logik* des Mose ben Maimon [In Auswahl aus dem Hebräischen übersezt]," JA II 197–230; henceforth *Logik* followed by page and line numbers.

[3] In the present English translation of LS's German, page numbers in boldface inside curly brackets refer to JA II 199–230. Page numbers in boldface inside angular brackets refer to JA XIV 25–31 (preface), 45 (the excerpt from chapter 4), 51–66 (chapter 7), and 101–2 (the excerpt from chapter 11).

A word of explanation is needed for some apparent incongruities and redundancies in the sequence of these page numbers. The incongruities and redundancies are *only* apparent. In JA II and JA XIV, Mendelssohn's comments on specific Maimonidean passages, on the one hand, and the Maimonidean text containing those passages, on the other hand, occur in each case on the same printed page—in parallel, as it were (although the parallelism is vertical rather than horizontal). In contrast, the present translation reproduces each Maimonidean excerpt in full and waits till immediately following that excerpt to add Mendelssohn's comments. Mendelssohn himself enumerates each of the Maimonidean passages on which he comments. He then uses those same enumerations when correlating his comments with the passages in question. The present translation retains Mendelssohn's own enumerations—both those in the Maimonidean text (as superscripts in boldface followed by a close-parenthesis) and those introducing Mendelssohn's comments—in order to facilitate cross-reference between the Maimonidean text and the Mendelssohnian comments. JA II and JA XIV page numbers are retained as well, despite the apparent incongruities and redundancies that result, in order to encourage and facilitate cross-reference between the present translation and the German and Hebrew originals.

[4] הגיון — the Hebrew word for "logic." See *Logik* 203.5–6, below. {LS}

[5] [Ger.:] *Meditation*. In parentheses after העיון והמחשבה in the Hebrew° text is "*Meditation. Betrachtung.*" {LS}

other cases it designates utterance or discourse with the speech organs, which is called outward or spoken discourse.[7] For the Scriptural verses והגית בכל פעלך (Joshua 1:8),[8] והגית בו יומם ולילה (Psalm 77:13 and 143:5),[9] והגות לבי תבונות (Psalm 49:4)[10] all speak of the endeavor of meditation and the striving of the understanding, since here the heart is signified; and in the holy language "heart" designates the power of the rational soul that knows the truth about things. But in the passages לשונכם עולה תהגה (Psalm 37:30),[12] פי צדיק יהגה חכמה, ולשוני אם יהגה רמיה (Job 27:4),[11] לא יהגו בגרונם (Psalm 115:7),[14] והגה מפיו יצא (Job 37:2),[15] speaking with the lips is signified. In the language of our Sages, by ההוגה את השם באותיותיו (Sanhedrin 90)[16] is signified he who brings to his lips the letters of God's name. One word is applied to both aforementioned significations, on the basis[17] of the relationship that exists between them; for speaking and thinking are inseparably bound to each other, like body and soul. Just as the body remains like a lifeless stone if the soul is separated from it, and the soul in turn vanishes from the perception of all mortals[18] if it is not clothed in the body since it can be known to the human being during his life only by means of its activities of knowing, so discourse is related to thought. Speech without opinions and thoughts is nothing but a mere noise, like the sound of thunder and the sound of an earthquake,[19] which are not the sound of words; and the {200} fleeting inward thought can reveal itself by means of bodily movement and cause an impression in the outside world only if it has clothed itself with a bodily robe. This revelation proceeds in the manner[20] of the thought's passing from the soul of the one discoursing to the brain, from there to the moving parts that belong to the speech organs, from there into the air, where it causes various movements in the ear of the hearer, until finally the hearer understands the intent of the one discoursing. This bond between the spiritual and the bodily is a quite wondrous thing.[21] Because of it, every day we

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[6] Ger.: *Weltweise*. Heb.: בעלי החכמה. See IPM xviiin23.

[7] [Ger.:] *innere . . . äussere Rede*. This relation is altered by Maimonides in chapter 14; cf. Aristotle, *Posterior Analytics* A.10. {LS; reading *verwandelt* for *verwandt* at JA II 408 *ad loc.*}

[8] Heb.: And you shall meditate on it day and night.

[9] Heb.: And I have meditated on all your actions.

[10] Heb.: And the meditation of my heart is understandings.

[11] Heb.: Nor does my tongue utter deceit.

[12] Heb.: The mouth of the just one utters wisdom.

[13] Heb.: Your tongue utters treachery.

[14] Heb.: They do not utter in their throat.

[15] Heb.: And utterance comes out from his mouth.

[16] Heb.: He who utters the Name with his lips.

[17] Or: ground. Ger.: *Grund*. Heb.: צד. Elsewhere, *Grund* is either "basis" or "ground" according to the context.

[18] Ger.: *der Wahrnehmung aller Sterblichen entschwindet*. Heb.: תסתר מעיני כל בשר.

[19] Allusion to I Kings 19:11–13 and Isaiah 29:6. {LS}

[20] Ger.: *Weise*. Heb.: אופן.

[21] More or less lit.: wonderful subject. Ger.: *wunderbarer Gegenstand*. Heb.: ענין נפלא.

recite the blessing, ". . . and does wonders,"[22] as Moses Isserles says in *Orach Chayyim* VI.1 (*q.v.*).[23] No investigation can penetrate it, can understand how the bodily movement in the brain changes into something spiritual,[24] namely, into the representation[25] and sensation[26] of the soul; nor, similarly, how from this spiritual representation a bodily movement emerges in the brain. As for the assertion that *Magen Avraham*, *ad loc.*,[27] adduces as the doctrine of the *Book of Intentions*,[28] however, namely, that the soul is refreshed by spiritual food and the body by material food, **<26>** it agrees with scientific doctrine,[29] to be sure. Modern investigations confirm that every food forms blood, and that from the blood emerges the pure and clear fluid that in German is called "nerve fluid" and is the source of voluntary movement and of sensation.[30] Nevertheless, this assertion supplies no explanation for the aforementioned wonder. For the fluid we have spoken of is indeed something fine and pure and does not fall under the senses, and therefore has to be called something spiritual; but it is contained in space and enclosed in three dimensions, and it moves from place to place in a spatial movement.[31] Thus, it does not consist in a representation of the soul; for this is not contained in space, is not enclosed in dimensions, and is not subject to spatial movement. We therefore do not know how a representation emerges from spatial movement and vice versa. Yet we have gone too far from our intention; for we wished only to point out the inseparable bond between inward and outward discourse. There is another, **{201}** deeper regard[32] in which the dependence of inward on outward speech becomes clear; this rests on the following principle: each sensory representation[33] has to do with the particular, and each intellectual representation[34] has to do with the universal;[35] i.e., each sensory representation is related to a sense-object[36] that is one

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22 The blessing to be said at the start of daily morning prayer: "Praised [art Thou, O Lord our God,] who heals all flesh and does wonders." {LS}

23 Rabbi Moses Isserles of Krakow (1520–72).—*Orach Chayyim* is the first part of the *Shulchan Aruch*, the code of Jewish law composed by Rabbi Joseph Caro, which Isserles amplified with "Reports." {LS}

24 Ger.: *etwas Geistiges*. Heb.: דבר רוחני.

25 Ger.: *Vorstellung*. Heb.: השגה.

26 Ger.: *Empfindung*. Heb.: הרגשה.

27 *Magen Avraham* is the name of the commentary on *Orach Chayyim* composed by Abraham Abele ben Chayyim Halevy Gumbiner (1635–83). {LS}

28 The author of the *Book of Intentions* is the Kabbalist Isaac Luria (1535–72). {LS}

29 Ger.: *Lehre der Wissenschaft*. Heb.: חקירה.

30 For the history of the views on "nerve fluid," cf. Bela Révesz, *Geschichte des Seelenbegriffes und der Seelenlokalisation* (Stuttgart, 1917), 181, 185, 196–98. From the contemporary literature, cf. especially Haller, *Elementa Psychologiae*, vol. IV, bk. 10, sect viii, §§5 ff. {LS}

31 Ger.: *räumliche Bewegung*. Heb.: תנועת העתקה.

32 Ger.: *Rücksicht*. Heb.: בחינה.

33 Ger.: *sinnliche Vorstellung*. Heb.: השגה חושית.

34 Ger.: *Verstandesvorstellung*. Heb.: השגה שכלית.

35 Ger.: *mit Besonderem . . . mit Allgemeinem*. Heb.: בפרטים . . . בכללים.

36 Ger.: *Sinnesgegenstand*. Heb.: מוחש.

particular thing, whereas an intellectual representation aims at the universal in things, at the determinations that include many individuals, and species[37] and genera,[38] as will be explained to the reader of the present book (chapter 10).[39] Now it is well-known that it is possible[40] for a human being to abstract[41] the universal in a thing and to represent it[42] in his awareness[43] only if he avails himself of discourse, i.e., if he represents in his awareness the words that refer to those universal concepts.[44] E.g., sweetness, virtue, and wisdom are universal concepts; but a human being cannot represent in his awareness the concept of sweetness abstracted from the sweet object or the concept of wisdom abstracted from the wise individual or the concept of virtue abstracted from the virtuous individual, if he does not represent to himself in his soul the letters or sounds of the words "sweetness," "virtue," or "wisdom" just as they correspond to those concepts in outward discourse. Since therefore all intellectual representations aim at universal concepts, it is impossible to think about them without outward discourse. In both these regards, it becomes understandable why one word in the holy language—namely, the root הגה with all its derivatives—is used to designate speaking and representing.

The substantive הגיון, which is derived from this root, is found in Scripture only in the Psalms,[45] and according to the context it is to be understood there as thoroughgoing contemplation and investigation,[46] i.e., as meditation on one of the wonders of creation and of providence about which the poet was thinking at that time, as is perspicuous to the reader of the verses concerned. He says:

Thus is the Eternal known; the justice that he has created. —

The blasphemer must become entangled in the work of his own hands.[47]

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37 Ger.: *Arten.* Heb.: מינים. Cf. *Logik* 214n169, below.

38 Ger.: *Gattungen.* Heb.: סוגים.

39 In chapter 10, Maimonides explains the signification of "species," "genus," etc.; in the preliminary remark to his explanation of this chapter, Mendelssohn takes up the principle mentioned in the text. {LS}

40 In the 3rd edition, instead of "only possible," it says "almost only possible." Mendelssohn makes the corresponding alteration also in an addition to the 3rd edition at *Logik* 201.22. {LS}

41 Ger.: *abstrahieren.* Heb.: להפשיט.

42 Ger.: *es . . . vorzustellen.* Heb.: לצירם.

43 Ger.: *Bewußtsein.* Heb.: מחשבה.

44 Ger.: *allgemeine Begriffe.* Heb.: ענינים כללים.

45 The word הגיון is also found outside Psalms in Lamentations (3:62). {LS}

46 [Ger.:] *gründliche Betrachtung und Forschung.* In parentheses after בחינה עצומה וחקירה in the Hebrewº text is "*Betrachtung.*" {LS}

47 Psalm 9:17 (in accordance with Mendelssohn's translation). {LS}

About this subject, he says in another passage: "Unreason does not see into it; the unthinking do not grasp it."[48] In the former passage, he continues: "O, the great thought" (הגיון סלה — Psalm 9:17), {202} by which he means to say that it is proper to reflect[49] <27> on the wondrous ways of providence,[50] how the blasphemer[51] must become entangled in the work of his own hands, how he falls into the grave that he has dug[52] and how all his striving and all his fortune will be of no benefit on the day of wrath:[53] for then it is known that the Eternal exercises justice and punishes the blasphemer according to his blasphemy, that blasphemers do not flourish nor any evildoers blossom, but that they perish forever.[54] For, as is well-known, this meditation belongs to the foundation of the Torah.

In the Gemara, the word comes up in *Berachot* 28b:

> The Rabbis taught: When Rabbi Eliezer had become ill, his students came over to visit him. They said to him, "Rabbi, teach us the ways[55] of living by which we may attain the life of the world to come." Then he said to them, "Be solicitous of the honor of your companions, and restrain your children from הגיון, etc."

In the explanation in *Aruch*,[56] by הגיון is signified the understanding of Scripture in its literal sense. Rashi[57] explains:

> Do not familiarize them excessively with Scripture, because that draws them on. Another explanation: <Restrain them> from childish chatter.

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[48] Psalm 92:7 (in accordance with Mendelssohn's translation). {LS}

[49] Ger.: *nachzudenken*. Heb.: התבוננל.

[50] Ger.: *Wege der Vorsehung*. Heb.: דרכי השגחה. Except in the rabbinic quotation at the beginning of the next paragraph, "way" (*Weg*) is always דרך. See also *Logik* 203n68, below.

[51] Ger.: *Frevler*. Heb.: יוקש רשע. (*Frevler* in the verse from Psalm 9.17 quoted above is נוקש רשע.)

[52] Psalm 9:16 (in accordance with Mendelssohn's translation). {LS}

[53] Proverbs 11:4. {LS}

[54] "When blasphemers flourish like the grass, / When all evildoers blossom, / In that way they will perish forever." — Psalm 92:8 (in accordance with Mendelssohn's translation). Cf. the preceding verse, cited above (*Logik* 201.33–35). {LS}

[55] Ger.: *Wege*. Heb.: ארחות. See *Logik* 202n50, above, and 203n68, below.

[56] *Aruch* is a lexicon of the Talmud, compiled around 1100 by Nathan ben Yechiël of Rome. See the explanation mentioned in the text, s.v. הגיון. {LS}

[57] "Foremost French commentator [on the Bible and Talmud], called Rashi after the initial letters of his name, Rabbi Shlomo Yitschaki (1040–1105)." CCJR, s.v.

Rashi's first explanation agrees more or less with the view of *Aruch*, that whoever familiarizes his children excessively with Scripture without fitting instruction in the traditions and explanations of our Sages thereby gives them occasion to learn to interpret Scripture according to the literal sense and according to their own opinion and also, when they become older, not to pay attention to what has been communicated to us about the explanation of Scripture and its allusions and secrets through unbroken tradition going back to our teacher Moses; for they are then familiarized from childhood on to correcting it by the light of their understanding and supporting it by their discernment. According to this opinion, the הגיון of which Rabbi Eliezer speaks would be inward or mental discourse, and he would have been warning his students to restrain their children from supporting their explanation of the Torah by their own reflection;[58] rather, they were to incline their ear to tradition and not deviate right or left from what our ancestors have reported; for this is the principle of the oral Torah. In the second explanation supplied by Rashi, **{203}** the signification would be, "Restrain your children from much chatter";[59] here, by הגיון would be understood outward discourse, speaking with the lips. You see, therefore, that the word הגיון in Scripture and in the Talmud signifies thinking and speaking.[60]

The Latin° word *logica*,[61] which is well-known to the philosophically informed[62] as having the signification of הגיון, is derived from *logos*, a word that in Greek likewise sometimes signifies speaking, sometimes thinking; sometimes, also, the science[63] of thinking truly and correctly, which is an acquisition of the soul's. In Latin, there is no such word that combines both significations. That is why Latin speakers made use of the Greek word for it. It is the same with the word *dialectica*,[64] which they made use of in their books as having the signification of הגיון. This word is derived from the Greek° *dialegein*, from the root *legein*, which sometimes signifies "to tell," sometimes "to consider."[65] This word also united both aforementioned significations. Now when in the age of Rabbi Moses Maimonides and Rabbi Solomon ben Adret[66] translators came forth and translated the philosophical books from the languages of the

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58 [Ger.:] *Nachdenken*. In parentheses after הגיון לבם in the Hebrew° text is "*Nachdenken meditatio.*" {LS}

59 [Ger.:] *Plaudern*. Supplied in the Hebrew° text as a translation of שיחה. {LS}

60 [Ger.:] *Denken und Sprechen*. Supplied in the Hebrew° text as a translation of הרעיון והבטוי. {LS}

61 LS follows Mendelssohn here in using the Latin word for "logic"—לאגיקא in Mendelssohn's Yiddish transliteration. Likewise seven sentences later. Elsewhere "logic" is always הגיון (or חכמת ההגיון; see *Logik* 206n103, below).

62 Ger.: *Philosophie-Kundigen*. Heb.: עלי החכמהב.

63 Ger.: *Wissenschaft*. Heb.: חכמה. The remaining three occurrences of "science" (*Wissenschaft*) in this paragraph are ידיעה, חכמה, and חקירה, respectively.

64 LS follows Mendelssohn here in using the Greek word for "dialectics"—דיאלעקטיקא in Mendelssohn's Hebrew transliteration. Likewise three sentences later.

65 *Erzählen* ["to count"] and *überlegen* ["to consider"] are transliterated° in the Hebrew° text. {LS}

66 What is meant is the 12th and 13th centuries. Moses Maimonides lived from 1135 till 1204, Solomon ben Adret from 1245 till 1310. (The acronym used in the text for the name of the

nations into our holy language, they found the word הגיון to agree in that respect with the word *logica* or the word *dialectica*, which designates the doctrine of the guidance of the understanding and of speaking, and the knowledge[67] of the rules[68] of their correct use. **<28>** You will see in the following that this science has for its material the modes[69] of establishing a syllogism[70] and a proof,[71] so that it can be said that logic teaches human beings the rules of the syllogism and of proof and the modes of their use. The benefit of this undertaking is manifold and significant, and only a stubborn person° or one who is innocent of all science can despise it. Yet God has given man a heart to grasp the infinitely great and powerful wonders of creation in order to know God's greatness and sublimity, in order that he might thank him for his great benevolence[72] that he exercises toward his creatures at each hour and in each moment, from the sublime angel on high to the worm that crawls on the earth, as the author of *Duties of the Heart*[73] has detailed far-reachingly in the "Chapter on Meditation," which speaks about the value of this meditation. But how do we know by which way those sublime concepts are arrived at and how **{204}** error and entanglement are thereby guarded against, if we do not trouble ourselves to grasp what the rules of the understanding are by which the soul learns to distinguish between truth and illusion, and in what manner it ascends from the first concepts that are well-known to each human being—the foolish as well as the intelligent—and from representation to representation until it finally arrives at the most sublime inquiries and, with the end of the staff that it has in its hand, tastes of the honey[74] of the highest, the wondrous wisdom reserved for honest persons° who walk straightforwardly,[75] for which each intelligent, God-fearing person° has a longing strong as death, and were anyone to give all the wealth in his house in exchange for the love for wisdom, they[76] disdain and despise him.[77] At any rate, it is correct that human understanding alone, without the help of Torah and tradition, does not satisfy the soul, which thirsts to enjoy the light of life. For when a man is supported merely by his own discernment, without the help and shield of Torah and tradition, he gropes like a blind man in the dark,[78] and the rules of logic are not enough for him to guard himself against confusion and entanglement. Thus have many famous

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latter—Rashba—may also be deciphered differently, to be sure; yet the deciphering chosen by us is the most plausible one according to the context.) {LS}

[67] Ger.: *Erkenntnis*. Heb.: דעת.

[68] Ger.: *Regeln*. Heb.: דרכי. Depending on the context, LS renders דרך as "way" or (in the plural only) "rules." Cf. *Logik* 202n50 and 202n55, above.

[69] Ger.: *Arten*. Heb.: אופני.

[70] Ger.: *Schluss*. Heb.: הקש.

[71] Ger.: *Beweis*. Heb.: מופת.

[72] Ger.: *Güte*. Heb.: טוב. Cf. IGC CIIIff.

[73] The author of *Duties of the Heart* is Bachya ibn Pakuda (lived in Spain around 1100); cf. especially the second paragraph of the second chapter (the "Chapter on Meditation"). {LS}

[74] "I have tasted a little honey with the end of my staff which I have in my hand" — I Samuel 14:43. {LS}

[75] Allusion to Proverbs 2:7. {LS}

[76] I.e., the honest persons who walk straightforwardly.

[77] Song of Songs 8:6–7 (in accordance with Mendelssohn's translation). {LS}

[78] Deuteronomy 28:29 (in accordance with Mendelssohn's translation). {LS}

philosophers[79] fared for whom the light of Torah has never shone or whose mind has descended[80] into pride and haughtiness by despising the divine Torah and saying: "My wisdom will sustain me; for I am clever."[81] These persons° have stumbled and fallen into a deep grave from which there is no rising up;[82] they have become entangled and caught in the snare of error and confusion. But, on the other hand, even one who chooses God's Torah and truly and uprightly believes in his Prophets and Sages does not escape the necessity of distinguishing between truth and illusion and of watching out for error—in doctrines of the faith and of reason,[83] in the legal precepts and their particulars and specifics,[84] and in everything that our Sages derive by the methods by which the Torah is to be interpreted.[85] Sometimes he must compare one thing with another, sometimes he must distinguish between them; at one time he must use strict proofs, at another time he must ponder according to the correct supposition;[86] at one time he must seek the truth for himself, at another time he must negotiate with a listener or contest with an adversary. In all these cases, he is directed to the **{205}** rules of the syllogism and of proof, in order to derive the unknown from the known and to know the hidden from the manifest. In short, each reflective person°,[87] whoever he may be, is directed to making use of these rules of logic in order to make syllogisms and to construct **<29>** reliable, infallible[88] proofs on the basis of them. If anyone wishes to say, "I could be wise without making use of the rules of logic," he is like someone who says, "I will close my eyes and thereby see the stars in heaven above," or "I will speak with men and will write books without making use of the rules of grammar"; truth to tell, he would be like someone who wishes to make a joke.[89] You will see in my exposition of chapter 7 of this book[90] that, just as a man avails himself of his speech organs without needing to know how the lips, tongue, palate, and teeth move in order to produce sounds, or as a man can walk without paying attention to how the will of the soul moves the muscles and nerves in order to raise one foot after the other from the soil, so the wise person° can make use of the rules of grammar or the rules of logic without having a precise knowledge of their particulars. But he does not for that reason stop making use of them. That is why it is suitable for the intelligent person° and the lover of truth to study them, in order to know their essence and

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79 Ger.: *Weltweiser*. Heb.: חוקרים. Cf. IPM xviiin23.

80 Psalm 131:1 (in accordance with Mendelssohn's translation). {LS}

81 Allusion to Ecclesiastes 2:9 and Isaiah 10:13. {LS}

82 Psalm 140:11 (in accordance with Mendelssohn's translation). {LS}

83 Ger.: *Lehren des Glaubens und der Vernunft*. Heb.: אמונות ודעות.

84 Ger.: *Gesetzvorschriften und deren Einzelheiten und Besonderungen*. Heb.: דינים ודקדוקיהם ופרטיהם.

85 The thirteen methods of Rabbi Ishmael, which Mendelssohn discusses below (*Logik* 228.18–19). {LS}

86 Ger.: *nach richtiger Vermutung*. Heb.: בפלס הסברא הנכונה.

87 Ger.: *Nachdenkende*. Heb.: משכיל.

88 Ger.: *untrügliche*. Heb.: אשר לא יכזבו.

89 Genesis 19:14 (in accordance with Mendelssohn's translation). {LS}

90 *Logik* 212f. {LS}

become skilled in this science, in order to guide his understanding and teach it how to go on the right way and on the just path[91] and not turn right or left from the way of truth.

You will perhaps say to yourself:

> Hasn't this whole science[92] been created by Aristotle the Greek and his students? What do I have to do with the son of Nicomachus,[93] that I should keep watch at his door[94] in order to hear the rules of rational thinking[95] from him? Haven't our teachers, the Decisors,[96] warned me against following him, and haven't they forbidden us from reading his books? For they belong to the profane books that mislead the heart with fabricated opinions and erroneous views. And if our Sages have said, with respect to the wise men of Israel, "If a teacher is like an angel of God, then one may demand Torah of him; otherwise one may not demand **{206}** Torah of him"[97]—how much more is this valid for this man, who does not belong to our nation and has never glimpsed the light of Torah and in whom the truth that is sometimes found in his words vanishes in the overabundance of his errors and faults?

When you say such things to yourself, then realize, my friend, that I do not wish to seduce you into reading the books of Aristotle the Greek, but into hearing the words of a prince of the Torah, our teacher Moses Maimonides, who has picked up food from the refuse and has dealt with the Greeks as Rabbi Meir did with Acher: "he ate its insides and threw away the shell."[98] After this great teacher has cleared the stones from the road, removed each bump from the way of wisdom and accepted from foreign philosophers[99] only what is correct, is purified of all dross and all rust and contains nothing wrong, one ought to draw upon him and follow in his tracks. We do not need to fear in the face of the entanglement to which human inquiry is exposed, after we know that the heart of this wise man was entirely with God and adhered to his Torah and his

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91 Psalm 23:2 (in accordance with Mendelssohn's translation). {LS}

92 Ger.: *Wissenschaft*. Heb.: מלאכה. Except where noted, the remaining occurrences of "science" in this paragraph—i.e., after the block citation—are all חכמה. See also *Logik* 206n100, below.

93 Aristotle. {LS}

94 Proverbs 8:34. {LS}

95 Ger.: *die Regeln des vernünftigen Denkens*. Heb.: השכלה ודרכיה אורח. At *Logik* 207.5, below, the same German expression translates דרכי ההשכלה. See also *Logik* 202n50, above.

96 Ger.: *Dezisoren*. Heb.: פוסקים.

97 Babylonian Talmud, *Chagigah* 15b. {LS}

98 Acher (the "Other"), according to Elisha ben Abuya, was called the refuse of Judaism; he was the teacher of Rabbi Meir. About the relationship of Rabbi Meir to his apostate teacher, *Chagigah* 15b reads: "Rabbi Meir found a pomegranate; he ate its innards and threw away its shell." {LS}

99 Ger.: *Philosophen*. Heb.: חוקרים. Cf. IPM xviiin23.

commandments. How much more merit do the principles of logic have for the other sciences,[100] inasmuch as they do not rest on judgments of the understanding and mere probability,[101] but are secured by evident and strict proofs. About these proofs there is no doubt or quarrel as comes up in the sciences of physics, metaphysics, and morals, in which **<30>** quarrel and difference of opinion, which as is well-known are grounded in differences of times, circumstances, temperaments, and habits, have never stopped. It is otherwise in logic;[102] for it rests on the pillars of reliable proofs. It is comparable to the sciences of mathematics and astronomy, in which there is no possibility of deviating right or left from the way of truth. Nor do the rules of logic contain anything that leads into error, away from God's way; for they are all too distant from the principles of religion and from the foundations of the Torah and have nothing to do with commandment and prohibition. All inhabitants of the earth, be they ever so different in morals, opinions, and religions, consent to the doctrines of the logicians.[103] Still, the purpose of this science is not the distinguishing **{207}** of truth and illusion[104] or of good and evil itself, but the communication of the way by which we arrive at the distinguishing of truth from illusion and of good from evil. Bear in mind also that, without doubt, He[105] who has graced man with discernment has planted the rules of rational thinking in his heart and prescribed infallible laws[106] for him by virtue of which he grasps one thing from another and understands the hidden from the known, and so knows truth. For since He has created man in His image, He has without doubt wished man to grasp those rules and avail himself of them in order to contemplate[107] the works of God, reflect on his Torah, and understand its interpretations and deep secrets. Therefore, whoever investigates those rules does the will of his master; and it would be a great injustice to hold that such a person concerns himself with nullities or dabbles in profane books. May the Merciful One keep us from this view!

I know well that the day is short and the work is much,[108] that the few and sad years of man's life[109] are barely adequate for busying ourselves in keeping with the commandment imposed on us to continue learning, to abide by and carry out the Gemara and its commentators and therefore its most important subjects. In these circumstances, how is one to apply his attention to this after-course[110] to wisdom? But I have seen over and over again that these rules

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[100] Ger.: *Wissenschaften*. Heb.: חקירות. Cf the previous note and *Logik* 205n91, above.

[101] Ger.: *auf dem Dafürhalten des Verstandes und bloßer Wahrscheinlichkeit*. Heb.: בשקול הדעת ובפלס הסברא.

[102] Ger.: *Logik*. Heb.: חכמת ההגיון.

[103] Ger.: *Logiker*. Heb.: בעלי ההגיון.

[104] Ger.: *Trug*. Heb.: שקר.

[105] Here and in Mendelssohn's next sentence, I have capitalized pronoun references to God, to let these show up more readily in English. LS's German does not use capital letters, however. Nor, of course, does Hebrew, which does not have capital letters at all.

[106] Ger.: *untrügliche Gesetze*. Heb.: חוקים ומשפטים ישרים. Cf. notes 88 and 107, above.

[107] Ger.: *betrachten*. Heb.: לבחון.

[108] *Pirkei Avot* 2.20. {LS}

[109] "Few and sad were the years of my life," Genesis 47:9 (in accordance with Mendelssohn's translation). {LS}

[110] Astronomy and geometry are named the "after-course to wisdom" in *Pirkei Avot* 3.18. {LS}

are very easy and that the intelligent reader can know them completely in two or three days without any effort or struggle. It is recommended that young men on whom Torah study is incumbent arrange[111] one or two hours weekly for the learning of these rules, since they are of great help for the study of the Gemara and its commentators and for the disputations of study-companions; for they serve for the correct conduct of the human understanding and they also order the outward discourse that makes up the reputation of a human being and his superiority to cattle. How does one who does not understand how to handle his words wish to find the truth in the expounding of the Torah and the transmitters![112] In fact, we see that as many as all commentators cannot avoid occupying themselves with these subjects; a few of them have even done so **{208}** in the most thoroughgoing manner, as, e.g., Rabbi Samuel bar Meir, Rabbi Abraham ibn Ezra, Rabbi Elias Mizrachi et al.[113] The author of *Middot Aharon*,[114] who has written a commentary on the thirteen hermeneutical principles,[115] has interspersed them with the basic teachings of logic. This is enough to relieve the gift that I bring you today of the reproach with which it is burdened. **<31>**

Maimonides only had the aim of commenting on the terms of which the logicians avail themselves. That is why he named this small book *Commentary on the Logical Terms*. It has already been published four times, with two commentaries: in Cremona in the year 5287, in Basel in the year 5287, and twice in Venice in the years 5310 and 5327.[116] But those

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[111] Ger.: *bestimmen*. Heb.: יקבעו. Cf. *Pirkei Avot* 1.15.

[112] It is not clear what Mendelssohn is thinking of. The Hebrew word (מעתיקים) can also signify "translators." Perhaps the *Targumim* are meant. {LS}

[113] Rabbi Samuel bar Meir (ca. 1085–1153), Rashi's nephew, a Tosafist and Bible commentator. Abraham ibn Ezra (ca. 1090–1167), famous above all as a Bible commentator and grammarian. Elias ben Abraham Mizrachi (1455–1526), Chief Rabbi of Constantinople. {LS}

[114] The author of *Middot Aharon*, the introduction to the commentary *Kurban Aharon* on the *Sifra*, is Aharon ben Abraham ibn Chayim of Fez (d. 1632). *Middot Aharon* is itself a commentary on the thirteen hermeneutical principles. {LS}

[115] "[According to the early Talmudic rabbis,] the full implications of the biblical laws can only be ascertained by a close scrutiny of the text for which the hermeneutical principles provide the key. . . . [T]he formulation of thirteen principles by the first- to second-century teacher, Rabbi Ishmael, is the usually accepted formulation, appearing in the standard Prayer Book as part of the morning service. This inclusion in the Prayer Book is based on the idea that every Jew should study each day something of the Torah, which the rules provide in capsule form. . ." CCJR, s.v. "Hermeneutics."

[116] About the different editions of the Maimonidean work, cf. the note *ad loc.* in the Hebrew text (JA XIV LXI). {LS}

The note in question, by Haim Borodianski/Bar-Dayan, the editor of JA XIV, reads as follows: "[It] appeared only three times, to wit, the first time under the title . . . הגיון ר׳ שמעון, with a Latin translation by Sebastian Münster (Basel, 1526), the second time with two anonymous commentaries, in Venice (1550), and the third time in accordance with the Venetian edition (uncorrected) in Cremona (1566). The same edition, almost word for word, is also to be found in the foreword of Rabbi Samson Kalir's to the first edition of the commentary (cf. appendix 2b, JA XIV 298). It is accepted, however, that the error was present beforehand in the commentator himself (Mendelssohn) and that Mendelssohn had already written an introduction to the first

commentaries have not understood the words of Maimonides at all; they had almost no expertise at all in logic. In the year 5522 Samson Kalir, a physician informed in the Torah, pressed me to compose a short commentary on Maimonides' book. I responded to his plea, and he had the commentary printed in Frankfort on the Oder. This printing, however, is marred by countless defects. Also, the commentary was inaccessible to beginners because of its great brevity. That is why I have expanded this commentary for the benefit of the reflective person° who does not yet have any experience in this area. Where Maimonides deals with something all too briefly, I have enlarged his explanations, so that whoever has a longing for this science[117] is not directed to looking in the books of the wise who do not belong to our nation. Reader, accept my gift that I bring you today and, if I have erred, then may the All-beneficent[118] forgive my error and illuminate my path. Peace to you! **{209}**

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CHAPTER 4

[MAIMONIDES' TEXT][119] . . . It is well-known that everything that is affirmed or denied of an object is either necessary or possible or impossible.**3)**[120] The impossible is necessary.**4)** — E.g., our **{210}** expression "All men are animals," we designate as a necessary proposition; our expression "Some men write," we designate as a possible proposition; our expression "All men are winged," we designate as an impossible proposition. . . . If we say, e.g., of Reuben at his birth, "This Reuben is a writer," or "This Reuben is not a writer," then we call this proposition truly possible.**5)** But if we make this expression, e.g., about the scribe Ezra during the time that he was a scribe,**6)** then we do not designate this proposition **{211}** as possible, but we designate it as an actual or existential[121] proposition; for everything that is possible is truly possible only in relation to the future, before one of two possibilities is actualized. If one is actualized, however,

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edition, albeit a short one, which was elaborated by Kalir in his introduction. Perhaps the detailed table of contents at the conclusion of the preface also stems from Mendelssohn (cf. appendix 2c, JA XIV 300ff.), if it had been removed from the expanded edition. The Hebrew° punctuation of the text of the *Logic* stemmed from Kalir and thus has also been removed from our text."

For subsequent German translations, by Rainer Wenzel, of the two Hebrew appendixes that Bordianski/Bar-Dayan mentions above in parentheses, see JA XX.1 157–60 and 160–62.

117 Ger.: *Wissenschaft*. Heb.: ידיעה.

118 Ger.: *der Allgütige*. Heb.: האל הטוב. Cf. *Logik* 203n72, above.

119 In the part of chapter 4 omitted by us, the terms "contrary," "contradictory," etc., are explained. {LS}

120 In the Maimonidean texts, boldface numbers in superscript followed by a close-parenthesis sign correspond to similar numbers in LS's German translation (and in the Hebrew original) and to sections of Mendelssohn's commentary *ad loc*.

121 [Ger.:] *aktuel oder vorhanden*. Mendelssohn translates המחולט או הנמצא at the conclusion of his exposition of Chapter 4 as "*vorhanden, actuale*." On this use of "*vorhanden*," cf. the expression "*vorhandene Begriffe*" (JA II 301.18 [cf. Dah 282: "real concepts"]). {LS}

then just this possibility is done away with; for if Reuben, who is standing beside us, is actually standing, then his standing is no longer possible but resembles the necessary. **{209} <44>**

3) I wish to present to you an explanation of these words, since your understanding, as reflective persons° know, is of great benefit in metaphysics, physics, and morals. Every proposition and every judgment[122] whose predicate contradicts[123] or is contrary to[124] its subject—no matter whether the proposition is affirmative[125] or negative[126]—is called "impossible,"[127] in itself and simply. E.g., the proposition "The circle has an angle" is impossible; for it follows from the definition[128] of a circle that no angle can be attributed to it; therefore, the subject contradicts the predicate. So too, the proposition "The triangle does not have three angles" is impossible; for if one also considers only a little, it is perspicuous that every triangle necessarily has three angles. Now if one has an impossible proposition, then one knows by the same token that its contradictory proposition is necessary.[129] If, e.g., it is said that the proposition "The circle has an angle" is impossible, then one knows that its contradictory, namely, "The circle has no angle," is a necessary proposition. So too, since the proposition "The triangle does not have three angles" is impossible, by the same token its contradictory, namely, "All triangles have three **<45>** angles," is a necessary proposition. Therefore, every proposition that contains a contradiction[130] in it is called "impossible"; and if a contradiction is found in its contradictory, it is called "necessary." If neither it itself nor its contradictory contains a contradiction, then it is a possible proposition. We clarify this by the examples adduced by Maimonides. The statement "All men are animals" is a necessary proposition, since its contradictory, "No man is an animal," **{210}** contains in it a contradiction; for life belongs to the definition of man. The statement "All men are winged" is an impossible proposition, since being winged without a wing contains a contradiction, and it follows from the definition of man that he has no wings. The statement "Some men write" is a possible proposition, since neither writing nor the necessity of not being able to write belongs either in this proposition or in its contradictory, but the possibility[131] of both does.

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122 Ger.: *Urteil*. Heb.: גזרה.

123 Ger.: *widerspricht*. Heb.: סותר. This Hebrew word also serves as the adjective "contradictory."

124 Ger.: *entgegengesetzt ist*. Heb.: מתנגד. Cf. *Logik* 205n133, below.

125 Ger.: *bejahend*. Heb.: מחיב.

126 Ger.: *verneinend*. Heb.: שולל.

127 Ger.: *unmöglich*. Heb.: נמנע.

128 Ger.: *Definition*. Heb.: גדר.

129 Ger.: *notwendig*. Heb.: הכרחי.

130 Ger.: *Widerspruch*. Heb.: סתירה. Cf. *Logik* 209n123, above.

131 Ger.: *Möglichkeit*. Heb.: אפשרות.

4) That is, just as a necessary proposition is true, so an impossible proposition is necessarily false.[132]

5) That is, as long as it is not yet decided in favor of Reuben's being a writer as opposed to his not being a writer or vice versa, the proposition "Reuben is a writer" is a truly possible proposition, i.e., it is a possible one regardless of the outcome; for it is possible that he is not a writer.

6) That is, if the causes have occurred by virtue of which Ezra actually became a scribe, then the proposition "Ezra is a scribe" falls in the realm of the truly possible; for it has been decided in favor of Ezra's being a scribe, **<46>** as opposed to his not being a scribe. Nevertheless it cannot be described as a necessary proposition, as long as its contrary,[133] "Ezra is not a scribe," has not ceased to be possible. That is why the logicians have appropriated a special name and designated it an "actual" proposition or an "existential" proposition, i.e., as a possible proposition that has become actual by the causes that have brought it from potentiality to actuality.[134] For there are possible things that never become actual;[135] of this sort is the possible that has no potential[136] at all. Nevertheless it *is*,[137] since no contradiction is contained either in it or in its contradictory, as we have explained. **{211}** If it is still potential[138]—regardless of whether it has a remote or an immediate potential[139]—, then it stands as it were in the middle between existence and nothingness.[140] But if it has passed from potentiality to actuality, it resembles the necessary and is called "actual" or "existential."

{212} <51>

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132 Ger.: *wahr . . . falsch*. Heb.: אמת . . . שקר.

133 Ger.: *sein Gegenteil*. Heb.: המשפט שכנגדו.

134 Ger.: *aus der Potenz in die Wirklichkeit*. Heb.: מן הכח אל הפועל. Likewise in the last sentence of this paragraph.

135 Ger.: *es gibt Mögliches, das niemals aktual wird*. Heb.: יש דבר אפשרי שלא ישוב לעולם להיות נמצא.

136 Ger.: *derart ist das Mogliches, das überhaupt nicht in der Potenz war*. Heb.: וזה אם לא יהיה בכח כלל.

137 The emphasis is not in the German (or Hebrew) original.

138 Ger.: *potentiell*. Heb.: אפשרי בכח.

139 Ger.: *einerlei ob in entfernter oder in nächster Potenz*. Heb.: בין שיהיה בכח רחוק או בכח קרוב.

140 Ger.: *zwischen dem Vorhanden und das Nichts*. Heb.: בין נמצא לאפס.

CHAPTER 7

PRELIMINARY REMARK TO CHAPTER 7

I have already said to you[141] that the aim of the logicians is to explain to us the rules of the syllogism and of proof, in virtue of which the thinking human being ascends from the contents of the senses and the first, indubitable concepts to the most sublime sciences,[142] distinguishes truth from illusion, and arrives at true knowledge in mathematics and in every other important science. However, a learned personᵒ sometimes engages in unfamiliar sciences, without paying attention to those rules of the syllogism by virtue of which he knows the truth about things. Meanwhile he does not cease to make use of them, since they are the rules that the Creator has imprinted in creatures and they can be set aside only on the basis of divine inspiration. But whoever has at his disposal only natural knowledge[143] cannot arrive at evenᵒ a single concept if he does not avail himself of the aforementioned rules. Sometimes, however, he does not pay attention to his making use of them; it then appears to him as if he has arrived at his knowledge[144] at one glance, **<52>** without his having needed to be supported by logic. He is then like a man who makes use of his limbs, sinews, and muscles without grasping how sinews move, what moves them, how sinews move muscles and muscles move bones, etc.; or like a man who makes use of the speech organs and is not concerned, as the grammarian is, with the production of every single sound. Now, the logician stands in relationship to inward discourse, or thinking, as does the grammarian in relationship to outward discourse, or speaking, or as does the natural scientist[145] and the competent physician who knows anatomy thoroughly in **{213}** relationship to the movements of the body; for that is why the latter is concerned to know what the nature of each movement of the limbs is, what causes it, how at an instant the movement of the body emerges out of a wish of the soul, etc. But that these investigations are of very great benefit is well-known.

From the foregoing[146] it is clear that every syllogism consists of three propositions,[147] namely, two premises[148] and the conclusion,[149] and that if both premises do not agree in one term, no conclusion ensues[150] from them. This agreement is possible in a threefold manner: there can be one subject[151] common to both premises, or there can be one predicate[152] common to

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141 *Logik* 203f. {LS}

142 Ger.: *Wissenschaften*. Heb.: הכמות. Likewise in the two other instances in this paragraph.

143 Ger.: *wer nur über natürliche Erkenntnis verfügt*. Heb.: כל משכיל טבעי.

144 Ger.: *Erkenntnis*. Heb.: ירההחק.

145 Ger.: *der Naturkündige*. Heb.: החוקר הטבעי.

146 Namely, from chapter 6. {LS}

147 Ger.: *Sätzen*. Heb.: משפטים.

148 Ger.: *Vordersätzen*. Heb.: קדמות.

149 Ger.: *Schlußsatz*. Heb.: תולדה.

150 Ger.: *hervorgeht*. Heb.: תולד.

151 Ger.: *Subjekt*. Heb.: נושא.

152 Ger.: *Prädikat*. Heb.: נשוא.

both, or the predicate of one proposition can at the same time be the subject of the other one. These three manners are called by the logicians "figures of the syllogism."[153]

<center>**<53>**</center>

<center>APPENDIX[154]</center>

[MAIMONIDES' TEXT] In the first figure,[1)] the subaltern must[2)] be affirmative[3)] and the superaltern **<54>** universal,[4)] i.e., *also* universal; but it can also be particular, **{214}** not merely universal.[5)] **<55>** The second figure° agrees with it with respect **{216}** to the quantity and differs from it with respect to the quality;[6)] and, to be sure, in the premise **<56>** and the conclusion.[7)] I understand by agreement with respect to the quantity of the premises that the order of universality remains preserved, i.e., that the superaltern in each case is universal as in the first figure°.[8)] I understand by **{217}** difference with respect to the quality that the second figure° departs from the first figure° in that its subaltern need not be affirmative and that consequently it[155] falls short of it[156] in that its conclusion is not affirmative.[157] I understand <by agreement and difference>[158] in the conclusion that **<57>** just as in the first universal figure° it is however not affirmative; i.e., it does not need to be affirmative. The third figure[9)] agrees with the first in respect of the quality **{218}** and differs from it in respect of the quantity; and, to be sure, likewise in the premises and in the conclusion. I understand by agreement with respect to the quality of the premises that the third figure° preserves the order of affirmation,[159] i.e., that in it the subaltern is necessarily affirmative as in the first figure; i.e., **<58>** it must in each case be affirmative. I understand <by agreement and difference> in the conclusion that it is likewise affirmative and not universal-negative, but particular-negative. I understand by difference with respect to the quantity that the third figure° departs from the first figure° in that the superaltern does not need to be universal and that consequently it ensues further that its conclusion is not universal. The second figure° and the third figure° are opposed to each other in the quantity and the quality. I mean by this that the second figure° keeps the order of universality and does not keep the order of affirmation; its conclusion is universal, not affirmative, only negative. The third figure° is the reverse; for it keeps affirmation and does not keep the order of universality; that is why its conclusion is affirmative and not universal. In short—the second figure° does not

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153 Ger.: *Schlußfiguren*. Heb.: תמונת החכש.

154 We bring the "appendix" [to chapter 7], which in Maimonides follows the "beginning of the chapter," before the latter, in keeping with the sequence in Mendelssohn's *Commentary*; see *Logik* 220.7–11. {LS}

155 I.e., the second figure.

156 I.e., the first figure.

157 Ger.: *daß sie infolgedessen damit hinter ihr zurückbleibt, daß ihr Schlußsatz nicht bejahend ist*. Heb.: שאינה צריכה שתהיה מחיבת בקטנה, ובזה בעמצו תחסר ממנה שלא תוליד מחיבת.

158 Here and elsewhere, interpolations in angular brackets are LS's.

159 Ger.: *Bejahung*. Heb.: חיוב. Cf. *Logik* 209n124, above.

preserve the order of affirmation and it does not conclude affirmatively;[160] the third figure° does not preserve the order of universality and it does not conclude universally. The first figure **{219}** —i.e., the one in which the middle term is the subject in one premise and the predicate in the other—is possible in four modes. The first: all C are B; all B are A; therefore, all C are A. The second: all C are B; no B is A; therefore, no C is A. The third: some C are B; all B are A; therefore, some C are A. The fourth: some C are B; no B is A; therefore, some C are not A. The second figure—i.e., the one in which the middle term is the predicate in both premises—is likewise possible in four modes: The first: all C are B; no A is B; therefore, no C is A. The second: some C are B; no A is B; therefore, some C are not A. The third: some C are B; no A is B; **<59>** therefore, some C are not A. The fourth: some C are not B; all A are B; therefore, some C are not A. The third figure—i.e., the one in which the middle term is the subject in both premises—is possible in six modes. The first: all B are C; all B are A; therefore, some C are A. The second: all B are C; no B is A; therefore, some C are not A. The third: some B are C; all B are A; therefore, some C are A. The fourth: all B are C; some B are A; therefore, some C are A. The fifth: some B are C; no B is A; therefore, some C are not A. The sixth: all B are C; some B are not A; therefore, some C are not A. **{213} <53>1**) This is formulated in the way that Maimonides has stated it in the previous chapter;[161] namely, the middle term[162] must be the subject in one of the two premises and the predicate in the other. For example:

> all men are animals;
>
> all animals have sensation;
>
> therefore, all men have sensation.

2) That is, the conclusion follows only under this condition.

3) Namely, one must combine the minor term[163] with the middle term and say, "All men are animals"; generally, the predicate A belongs to the subject C, so that C is the minor term and A is the middle term.

4) That is: *Either* the superaltern[164] affirms the major term[165] of all individuals of the middle term, and says "all A are B," such that B is the major term; then the conclusion is affirmative as a

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160 Ger.: *und sie schleißt nicht bejahend*. Heb.: ולא תולידהו.

161 Not in the previous Chapter, but in the "Beginning of Chapter 7"; see *Logik* 220.7–11. {LS}

162 Ger.: *das Mittelglied.* Heb.: הגבול העמצאי.

163 Ger.: *das Untergleid*. Heb.: הקצה האחרון.

164 Ger.: *das Obersatz*. Heb.: ההקדמה הגדולה.

165 Ger.: *das Obergleid*. Heb.: הקצה הראשון.

consequence of the combination[166] of the terms, and says, "C is B." *Or* the premise denies the major term of all individuals[167] of the middle term, and says, "all A are **{214}** not B"; then the conclusion is negative as a consequence of the separation[168] of the terms, and says "C is not B." Thus in the example "no animal is a stone," the conclusion is "therefore, no man is a stone." Accordingly, syllogisms of the first figure are possible in four manners: these manners are called "*modi*"[169] of the figure or of the syllogism. The following is the first *modus*:[170] all A are B; all C are A; therefore, all C are B. For example:

> all animals (A) have sensation (B);
>
> all men (C) are animals (A);
>
> therefore, all men (C) have sensation (B).

The following is the second *modus*: no **<54>** A is B; all C are A; therefore, no C is B. For example:

> nothing created (A) has necessary existence (B);
>
> all bodies (C) are created (A);
>
> therefore, no body (C) has necessary existence (B).

The following is the third *modus*: all A are B; some C are A; therefore, some C are B. For example:

> all bodies (A) have three dimensions (B);
>
> some things (C) are bodies (A);
>
> therefore, some things (C) have three dimensions (B).

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166 Ger.: *Verbundenheit*. Heb.: חבור.

167 Ger.: *Individuen*. Heb.: אישי.

168 Ger.: *Getrenntheit*. Heb.: הבדל.

169 Here LS uses the Latin word—made into a German noun by capitalizing it—instead of the German word he has used earlier (which also means "species"). See the following note, with *Logik* 201n37and 203n69, above.

170 Ger.: *Modus*. Heb.: מין. Cf. the previous note.

The following is the fourth *modus*: no A is B; some C are A; therefore, some C are not B. For example:

> no covetous personº (A) enjoys his lot (B);
>
> some men (C) are covetous (A);
>
> therefore, some men (C) do not enjoy their lot (B).

These are the four *modi* of the first figure.

5) There is a clerical error here; for in the first figure the premise is only universal and not particular. Were it particular, then no inference[171] at all would result. For the principle of the first figure runs as follows: if something (B) of one species or genus (A) is affirmed or denied, then just this something (B) is affirmed or denied of all particulars (C) of the species or genus concerned. For example: everything (B) that is affirmed or denied of the human species (A) is affirmed or denied of all human individuals (C) that are conceived under this species. Thus if one says, "All men have sensation," then the same is valid of all human individuals; and if one says, "No man is winged," then this too is valid of all human individuals. Thus the species or genus of which an affirmation or denial is being expressed is the middle term (the sign of which is the letter **{215}** A), given that the determinations of the species or the genus are the major term (the sign for which is the letter C). (The ordering of the three propositions is therefore **<55>** as follows: CA AB CB.) Therefore, the major premise cannot in any manner be other than universal;[172] for if it does not affirm or deny the predicate concerning the whole species, then no inference results. Perhaps, however, it can be affirmative or negative if the determinations of the species or the genus are affirmed or denied of these, as we have explained. The minor premise can only be affirmed; for if it does not state about some one object (C) that it is conceived under the species (A) or genus (A) concerning which something is being affirmed or denied, how then is the inference or the conclusion to come about? Perhaps, however, it can be universal or particular. In either case, however, it must make a statement about some one object, that it is conceived under the species being spoken of in the major premise. The quantity of the conclusion takes its cue from[173] whether the minor premise is universal or particular, and the quality on whether the minor premise is negative or affirmative. (The words in the text, "i.e., also universal . . . not only universal," are therefore necessarily a clerical error.) Note, however, that although we say with respect to the first figure that the minor premise can only be affirmative, nevertheless it is sometimes found that the minor premise has the form of a negative proposition; in truth, however, it is affirmative if one says, e.g., "all C are not A; everything that is not A is not B; therefore, no C is B."

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171 Ger.: *Folge*. Heb.: תולדה. Cf. *Logik* 231n148, above.

172 Ger.: *kann . . . auf keine Weise anders als universal sein*. Heb.: לא תחסר מהיות כולל על כל פנים.

173 Ger.: *Der Schlußsatz richtet sich in der Quantität danach*. Heb.: תהיה בכמות כפי התולידה.

> The soul (C) is no body (A);
>
> everything that is not a body (A) is not divisible (B);
>
> therefore, the soul (C) is not divisible (B).

This syllogism is in the first figure, and yet the minor premise is negative in appearance; but after some consideration[174] one discerns that the word "not" in the minor premise is not the negative particle but a part of the predicate, just as it is a part of the subject of the major premise. For if one says, "everything that is not A," then it would be just as if one were to say, "all things that are not-A." The same goes for the minor premise; for if one says, "C is not A," {216} then it is just as if one were to say, "C is a thing that is not-A." The subject of the major premise thereby becomes the predicate of the minor premise in an affirmative statement, not in a negative one. And this in keeping with the essence of the first figure. Note that otherwise the conclusion would have to follow from two negative premises, which is impossible. Keep this principle in mind!

6) That is, the quantity of the second figure is the same as the quantity of the first figure; but it differs from the latter in quality. **<56>**

7) For this agreement and this difference are found in one of the premises and in the conclusion. He amplifies his words in what follows. (To enlighten the reader, I wish to begin by pointing out that the letter A, which in the first figure designates the entire species or genus and stands for the major term here,[175] also designates it there[176] and therefore stands for the major term there; that the letter B, which in the first figure designates the species or the genus and therefore stands for the major term in it,[177] also designates it there[178] and therefore stands for the common term there; that the letter C, which in the first figure designates some specific difference of the species or the genus[179] and therefore stands for the minor term in it.[180] The ordering of the three propositions of the syllogism[181] is therefore as follows: CB AB CA.)

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174 Ger.: *bei einiger Überlegung*. Heb.: אחר העיון.

175 I.e., in the second figure.

176 I.e., in the first figure.

177 I.e., in the second figure.

178 I.e., in the first figure.

179 Ger.: *irgend eine Besonderung der Art oder der Gattung*. Heb.: ט. מפרטי המין או הסוגאיזה פר. Cf. *Logik* 201n35 and 201n36, above.

180 I.e., in the second figure.

181 I.e., in the second figure.

8) The second figure is possible in four manners, which are called the four *modi*. The first *modus*: no A is B; all C are B; therefore, no C is A. For example:

> no triangle (A) has four sides (B);
>
> all rectangles (C) have four sides (B);
>
> therefore, no rectangle (C) is a triangle (A).

The second *modus*: all A are B; no C is B; therefore, no C is A. For example:

> all triangles (A) have three sides (B);
>
> no rectangle (C) has three sides (B);
>
> therefore, no rectangle (C) is a triangle (A).

The third *modus*: no A is B; some C are B; therefore, some C are not A. For example:

> no triangle (A) has four sides (B); **{217}**
>
> some figures (C) have four sides (B);
>
> therefore, some figures (C) are not triangles (A).

The following is the fourth *modus*: all A are B; some C are not B; therefore, some C are not A. For example:

> all triangles (A) have three angles (B);
>
> some figures (C) do not have three angles (B);
>
> therefore, some figures (C) are not **<57>** triangles (A).

The characteristic of the second figure is that the predicate of the major premise is at the same time the predicate of the minor premise. The principle of the second figure runs as follows: the thing (C) to which the determinations (B) of the species or the genus (A) do not belong—this thing (C) is not conceived under this species or genus (A). Maimonides' words thereby become

clear. For in all these *modi*, the major premise is universal, but sometimes affirmative and sometimes negative, since it explains the determinations of the species or genus, and as in the first figure these are negative or affirmative. The minor premise states about the minor premise that that the determinations of the species do not belong to the latter; it is thus negative if the major premise is affirmative, and affirmative if the major premise is negative. It is sometimes universal and sometimes particular. The conclusion concludes with respect to the minor term that it is not conceived under the species or the genus. That is why in every case it is negative. What is written above, "i.e., the conclusion does not need to be affirmative," is a clerical error; for in the second figure the conclusion is negative in every case.

9) The characteristic of the third figure is that the subject of the major premise is at the same time the subject of the minor premise. (Also in this figure the letter A designates the entire genus—it stands for the minor term in any case—the letter B designates the determinations of the specific difference—here it stands for the major premise—the letter C designates the specific difference itself—here it stands for the middle term. The ordering of the three propositions of the syllogism is as follows: CA CB AB. It has six *modi*. The first *modus*: {**218**} all C are B; all C are A; therefore, some A are B. For example:

all intelligent persons° (C) are truth-loving (B);

all intelligent persons° (C) are humans (A);

therefore, some humans (A) are truth-loving (B).

The second *modus*: all C are B; some C are A; therefore, some A are B. For example:

all who master themselves (C) are heroes (B);

some who master themselves (C) are physically weak (A);

therefore, some physically weak (A) are **<58>** heroes (B).

The third *modus*: no C is B; all C are A; therefore, some A are not B. For example:

no intelligent being° (C) is covetous (B);

all intelligent beings° (C) are humans (A);

therefore, some humans (A) are not covetous (B).

The fourth *modus*: no C is B; some C are A; therefore, some A are not B. For example:

> no creature (C) has necessary existence (B);
>
> some creatures (C) are separate intelligences (A);
>
> therefore, some separate intelligences (A) have no necessary existence (B).

The fifth *modus*: some C are B; all C are A; therefore, some A are B. For example:

> some humans (C) are foolish (B);
>
> all humans (C) are endowed with reason (A);
>
> therefore, some endowed with reason (A) are foolish (B).

The sixth *modus*: some C are not B; all C are A; therefore, some A are not B. For example:

> some creatures (C) are not bodies (B);
>
> all creatures (C) are existing things (A);
>
> therefore, some existing things (A) are not bodies (B).

The principle of the third figure **{219}** runs as follows: if something (B) is affirmed or denied of the entire species or of a part of the species (C), then this same something (B) is affirmed or denied of a part of the genus (A), not of the entire genus. **<59>** That is why in the major premise something is denied or affirmed of all or some individuals in the species, whereas the minor premise states about the species that it is conceived under the genus; that is why the minor premise is in every case affirmative; <this is the case> when the major premise is universal; for from two particular premises no inference at all results. The conclusion is in every case particular; for the entire species is only a part of the genus; but it can be negative or affirmative, depending on whether the major premise is negative or affirmative.

<51>

BEGINNING OF CHAPTER 7

I turn now to the exposition of the beginning of chapter 7; for the details of Maimonides' there are of unusual brevity. On the basis of what I began by pointing out, they are intelligible without difficulty.

<52> [MAIMONIDES' TEXT] From the preceding it is clear that the commonality between the two premises comes about *either* by the middle term's being the subject of one of the two premises and the predicate in the other one, as is the case in the example adduced by us, "all humans are animals, all animals have sensation"; we designate every such bond as the "first figure" of the syllogism. *Or* by the middle term's being the predicate in both premises at the same time, as in the statements, "all humans are animals, no stone is an animal"; every such compositing[182] is designated as the "second figure" of the syllogism. *Or* by the middle term's being the subject in both premises at the same time, as in the statements, "all animals have sensation, some animals are white"; we designate every such compositing as the "third figure" of the syllogism. There are therefore three figures of the syllogism. Note, however, that there is no doubt that a syllogism[1] does not ensue from the compositing of each of the pairs of propositions that agree in the middle term in one of these three modes. **<53>** It is rather as the following division implies: combinations occur in each of the three figures, of which in the three figures there are 108 in total;[2] of these there result 14 combinations[3] **{221}** of fruitful syllogisms. Each <such> combination is called a "*modus*." There are four of them in the first figure, four in the second figure, and six in the third figure. These have been described and ordered such that it can be said, e.g., "this syllogism is the fourth *modus* of the first figure, that syllogism is the third *modus* of the second figure, that syllogism is the fifth *modus* of the third figure. **{220} <59>**

1) That is, even if two propositions agree in the subject or the predicate, it is still not necessary that a true syllogism ensue from their compositing; for sometimes both are negative or both are particular, and then absolutely nothing follows from them, as is transparent if one considers only a little. The logicians have designated the combination of propositions from which there results no true inference an "unfruitful syllogism."

2) For either both premises are affirmative or both are negative, or the major premise is affirmative and the minor premise is negative, or the major premise is negative and the minor premise is affirmative; these are **<60>** the four forms. In each of these forms, there are nine combinations; for if both premises are affirmative, then (1) sometimes both are universal, (2) sometimes both are negative, (3) sometimes both are singular, (4) sometimes the major premise is universal and the minor premise is particular, (5) sometimes the major premise is particular and the minor premise is universal, (6) sometimes the major premise is universal and the minor premise is singular, (7) sometimes the major premise is singular and **{221}** the minor premise is universal, (8) sometimes the major premise is singular and the minor premise is particular, (9) sometimes the minor premise is singular and the major premise is particular. It is exactly the

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182 Ger.: *Zusammensetzung*. Heb.: הרכבה. Cf. *Seele* 203n13.

same in all four forms that we have named.[183] There are therefore 36 for each of the figures supplied by Maimonides, and correspondingly for all three figures. There are therefore 108 combinations altogether.

3) The same goes for a singular proposition as for a universal proposition, as has been explained in chapter 2. There are thus only universal and particular propositions left. Now in the first figure the major premise can only be universal, and the minor premise can only be affirmative; therefore, only four *modi* are left.

> The first *modus*: the major premise is universal-affirmative and the minor premise is universal-affirmative;

> the second *modus*: the major premise is universal-affirmative and the minor premise is particular-affirmative;

> the third *modus*: the major premise is universal-negative and the minor premise is universal-affirmative;

> the fourth *modus*: the major premise is universal-negative and the minor premise is particular-negative.

In the second figure, the major premise is only universal and the minor premise is always opposed in quality to the major premise; there are therefore four *modi*.

> The first *modus*: the major premise is universal-affirmative and the minor premise is universal-affirmative;

> the second *modus*: the major premise is universal-affirmative and the minor premise is particular-negative;

> the third *modus*: the major premise is universal-negative and the minor premise is universal-affirmative;

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[183] In Mendelssohn's ninth annotation on chapter 2 [JA XIV 38f.; JA XX.1 55f.]. {LS}

the fourth *modus*: the major premise is universal-negative and the minor premise is particular-affirmative.

In the third figure, the minor premise can only be affirmative; there are thus six *modi* left.

The first *modus*: the major premise is universal-affirmative and the minor premise is universal-affirmative;

the second *modus*: universal-affirmative—particular-affirmative;

the third *modus*: universal-negative—universal-affirmative;

the fourth *modus*: universal-negative—particular-affirmative;

the fifth *modus*: particular-affirmative—universal-affirmative;

the sixth *modus*: particular-negative—universal-affirmative.

For from two particular propositions no inference results at all. **{222}** There are therefore 4 in the first figure, 4 in the second figure, and 6 in the third figure; in total, there are 14 syllogistic *modi*. The 94 remaining *modi* are unfruitful and result in no inference at all, as Maimonides has said. One therefore sees that Maimonides has followed the tracks of Aristotle and his commentators in enumerating only three figures; namely, the first figure if the middle term is the subject in one premise and the predicate in the other, the second figure if it is the predicate in both premises, and **<61>** the third if it is the subject in both. Galen, though, has established the number of the figures at four.[184] In his view, the first figure is present if the middle term is the subject of the major premise and the predicate of the minor premise; but if it is the predicate of the major premise and the subject of the minor premise, it is <in his view> a figure of its own,[185] which is designated as the fourth figure and whose rules and laws are distinguished from the rules and laws of the three remaining figures. This figure has five *modi*, as I will explain to you. (The letter A, which designates the genus, stands here for the minor term; the letter B, which designates the determinations of the species, stands here for the minor term; the letter C, which indicates the

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184 Whether the introduction of the fourth figure goes back to Galen is controversial; cf. Prantl, *Geschichte der Logik*, I (Leipzig, 1855), 570–74, and Ziehen, *Lerhbuch der Logik* (Bonn, 1920), 736ff. {LS}

185 Ger.: *eine Figur für sich*. Heb.: תמונה בפני עצמה.

specific differences of the genus, stands for the middle term.[186] Therefore, the ordering of the three propositions of the syllogism in this fourth figure is: CA BC AB.) The first *modus*: all C are A; all B are C; therefore, some A are B. For example:

> all animals (C) have sensation (A);
>
> all humans (B) are animals (C);
>
> therefore, some beings who have sensation (A) are humans (B).

The following is the second *modus*: no C is A; all B are C; therefore, no A is B. For example:

> nothing created (C) has necessary existence (A);
>
> all bodies (B) are created (C);
>
> therefore, nothing that has necessary existence (A) is a body (B).

The following is the third *modus*: all C are A; some B are C; therefore, some A are B. For example:

> all bodies (C) are enclosed in space (A);
>
> some existing things (B) are bodies (C);
>
> therefore, something that is enclosed in space (A) exists (B).

The fourth *modus*: all C are A; no B is C; therefore, some A are not B. For example:

> all who restrain themselves (C) are heroes (A);
>
> no greedy person° (B) retrains himself (C);
>
> therefore, some heroes (A) are not greedy (B).

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186 Perhaps a clerical error is present here. As follows from what comes next, in the fourth figure the minor term stands for the genus, the major term for the specific differences, and the middle term for the species itself. {LS}

The following is the fifth *modus*: some C are A; no B is C; **{223}** therefore, some A are not B. For example:

> some who are endowed with reason (C) are feeders (A);
>
> no quadruped (B) is endowed with reason (C);
>
> therefore, some feeders (A) are not quadrupeds (B).

These, therefore, are the five *modi*. The principle of this figure is: everything that is conceived under the species or its specific differences concerns a part of the genus under it; everything that is not conceived under the species or its specific differences does not concern a part of the genus under it; everything that is not a part of the genus does not enter into the species and its specific differences. The laws of this figure are three:

> 1. If the major premise is **<62>** affirmative, the minor premise must be universal. For if the major premise is affirmative, then it states about the specific differences of the species that they are conceived under the species; now if the minor premise does not make a statement about this entire species and does not affirm or deny that the genus belongs to it, then no conclusion arises from the premises, as is required of it in order to affirm or deny that the specific differences or individuals of a species belong to a part of the genus. But if the major premise denies that the specific differences or individuals belong to a species, the minor premise can be particular; for if it affirms that the genus belongs to a part of the species, the conclusion denies that those specific differences or individuals belong to a part of the genus.

> 2. If the minor premise is affirmative, then the conclusion is particular. For if it affirms that the genus is a property° of the species, then it affirms or denies that the determinations and the specific differences belong to a part of the genus, not to the entire genus. But if it denies that the genus belongs to the species, then by the same token it denies that the determinations and specific differences of the species belong to the entire genus.

> 3. If the syllogism is negative, then the major premise must be universal. For if the conclusion is negative, then necessarily one of the premises must be affirmative and the other negative, since indeed two negative premises result in no inference whatever and two affirmative ones imply no negation.[187] Now given an

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[187] Ger.: *keine Verneinung zur Folge haben*. Heb.: לֹא יוֹלִידוּ שׁוֹלֵל. Cf. *Logik* 209n126, above.

affirmative major premise, i.e., given that it states about the specific differences that they are conceived under the species but does not affirm this concerning all specific differences, then even if the minor premise denies that that genus belongs to the entire species, it is impossible to deny that the specific differences of the species belong to of a part of the genus. If some humans are greedy, then it does not follow, even if the greedy person° is no squanderer, **{224}** with respect to the squanderer that he is no human. But if I say, "All fools are greedy; no greedy person° is a squanderer,"[188] then it follows that "some squanderers are not foolish." Given that the major premise is negative and that it denies that some specific differences belong to that species, no conclusion follows that denies that the specific differences belong to a part of the genus, even if the minor premise affirms that the genus belongs to the entire species. If some merchants do not lie, then it does not follow with respect to a scoundrel that he could not be a merchant, even if all liars are scoundrels. But if no wise person° lies and every liar is a scoundrel, then it follows that some scoundrels are not wise. Therefore, the major premise is either universal-negative or particular-affirmative; but it cannot be particular-negative. For if one of the premises is negative, then the conclusion is also negative.

We have already mentioned as the third law that in the fourth figure, if the conclusion is negative, the major premise must be universal. Given that the major premise is universal-affirmative, the minor premise can be universal-affirmative or universal-negative; but following the first law that we have mentioned, in no case can it be particular. Given that the major premise is universal-negative, the minor premise must be affirmative, since indeed no inference results from two negative premises. But it can be universal or particular. Given that the major premise is particular, the minor premise must be universal-affirmative. It must be affirmative, following the third law; for if it were **<63>** negative, then necessarily the conclusion would be negative; then the major premise must be universal; but we have assumed that it is particular. The minor premise must be particular for the conclusion to result, since no conclusion whatever ensues from two particular premises. One therefore has five *modi*:

1. universal-affirmative—universal-affirmative;

2. universal-affirmative—universal-negative;

3. particular-affirmative—universal-affirmative;

4. universal-negative—universal-affirmative;

5. universal-negative—universal-affirmative.

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[188] The Hebrew° text has "no fool is a squanderer," which makes no sense at all. But even if emending the obvious clerical error allows "greedy person°" instead of "fool," the syllogism is not binding; it would follow from Mendelssohn's premises that not *all* scoundrels are foolish. {LS}

Maimonides has not enumerated the *modi* of these figures, since they may be easily reduced to the first figure if one of their premises or conclusions is reversed in keeping with the rules of transformation explained in chapter 5.[189] They are thus almost entirely without benefit, as is transparent to any discerning person° if he considers even only a little.

{225}

CONCLUSION OF CHAPTER 7

[MAIMONIDES' TEXT] None of the combinations besides these fourteen *modi*, i.e., of the ninety-four remaining combinations, are syllogisms; for nothing else follows necessarily from them. Meanwhile, the proof for the nullity of these combinations and for the validity of those *modi* is an extensive part of **<64>** logic[1] and does not belong to the task of this treatise. Those fourteen *modi* of the syllogism are called "categorical syllogisms."[190] But what goes for the hypothetical syllogisms[191] is the case for two modes of them, the conjunctive-hypothetical[192] and the disjunctive-hypothetical.[193] The following is a conjunctive-hypothetical syllogism.[2] We say that every time the sun has risen, it is day; afterwards we posit the case that now the sun has just risen; it then follows that it is now day. Every syllogism so constructed is called "conjunctive-hypothetical." The following is a "divided-hypothetical,"[3][194] i.e., the aforementioned disjunctive-hypothetical **{226}** syllogism. We say that this number is either precise or imprecise; or that this water is either warm or cold or mild; afterwards we posit in the first example the case that now it is imprecise; then it follows that it is not precise; or we posit in the second example the case that now this water is warm; then it follows that it is not cold and not mild. Every syllogism so constructed is called a disjunctive-hypothetical syllogism. There are in total five fruitful *modi* of the hypothetical syllogism, two **<65>** *modi* of the conjunctive,[4] and three *modi* of the disjunctive.[5] Proofs and examples do not belong to the task of this treatise. The logicians call one of the modes of the syllogism "indirect proof."[6][195] For when we come across a proposition whose correctness we want to know through a proof by means of a categorical syllogism, then we speak of a "direct proof."[196] But when we prove **{227}** the proposition in another way—namely, by presupposing the contrary of the proposition whose correctness we wish to know and then forming the syllogism that is to serve us as proof, and we then come across the erroneousness of the contrary that is being assumed by us—we then say that the given proposition is without a doubt true. We then say that the proposition that we wanted to corroborate is proved indirectly. We have yet another mode of the syllogism, **<66>** the so-called

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[189] Cf. especially Mendelssohn's fourth annotation to chapter 5 [JA XIV 47f.; XX.1 65f.] {LS}

[190] Ger.: *kategorische Schlüße*. Heb.: ההקשים המשאיים.

[191] Ger.: *hypothetische Schlüße*. Heb.: ההקשים התניים.

[192] Ger.: *konjunktiv-hypothetische*. Heb.: תניי מדובק.

[193] Ger.: *disjunktiv-hypothetische*. Heb.: תניי נבדל.

[194] Ger.: *getrennt-hypothetische*. Heb.: התניי הנחלק.

[195] Ger.: *indirekt Beweis*. Heb.: הקש החלוף.

[196] Ger.: *direkt Beweis*. Heb.: ההקש המשאיי הישר.

"inductive syllogism."**7)**197 It is present if the parts of a proposition are well-known **{228}** and it is confirmed by the testing of some parts; we then assume that the proposition is universal and make it into the premise of a syllogism. We have yet another syllogism, the so-called "analogical syllogism,"198 i.e., syllogism on the basis of analogy.199 It comes up in the following circumstance: if we establish that two things are similar in some characteristic, and if we establish that something is valid for the one thing that we cannot establish as valid for the other thing, we then conclude200 that that this is also valid for the second thing. If, e.g., someone asks, "Is the sky artificially made?" we then answer, "Yes; the proof for that is201 that the sky is a body and a wall is a body; now a wall is artificially made; therefore, the sky is artificially made." This is an analogical syllogism. If we draw a proof for the sky's being artificially made from our having investigated all or most bodies that have emerged and having found that that are artificially made, and we say that the same is valid for the sky, then we call this syllogism an "inductive syllogism."202 E.g., the treasury, the chair, the candlestick, etc., are bodies; the sky belongs to the realm of bodies; therefore, it is artificially made—an inductive syllogism. We have still other syllogisms, **<67>** which are called "religious-legal syllogisms";**8)**203 but their treatment is not appropriate in our present context.

{225} <63>

1) Aristotle, Averroës, al-Ghazâli,204 Avicenna, and many of the moderns have investigated the properties of the syllogism. I have explained to you with extreme brevity the fruitful and the unfruitful *modi* of the syllogism and the principles and characteristics of the figures, so that you can separate with ease truth from illusion and the valuable from the worthless. Now the logicians have found that every syllogism of the second or third figure, insofar as it is true, reduces to the first figure, if one of the premises is changed such that it nevertheless remains correct.205 Thus we have in truth only *one* figure. For the remaining figures reduce to the first if the premises are reformatted. Many logicians have already dealt with this in detail and explained that methods by virtue of which a syllogism of the first figure that has the same result is produced from every

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197 Ger.: *Induktions-Schluß*. Heb.: ההקש הדמיון.

198 Ger.: *Analogie-Schluß*. Heb.: ההקש המשלי.

199 Ger.: *Schluß auf Grund der Uebertragung*. Heb.: ההעתקה.

200 Ger.: . . . *schließen wir*. Heb.: נדון.

201 [Ger.:] *ja; der Beweis dafür ist*. We translate according to the Basel text mentioned by Mendelssohn above (*Logik* 208.12), which allows ריאת זה instead of ראיתי זה. {LS}

202 Ger.: *Induktions-Schluß*. Heb.: ההקש החפוש.

203 Ger.: *religions-gesetzliche Schlüße*. Heb.: הקשי הדינים התוריים.

204 [Lit: Abu Hamid.] Abu Hamid Muhammed al-Ghazâli (*circa* 1100)—Here Mendelssohn names the Arabic philosophers as philosophical authorities that are well-known from Hebrew literature. {LS}

205 Cf., e.g., Wolff, *Logica* §§384–87, 396–98; Baumgarten, *Acroasis log.* §§254ff.; H. S. Reimarus, *Vernunftlehre* §§141ff.; Kant, *Die falsche Spitzfindung der vier syllogistischen Figuren erwiesen* [IKW II 49–65; "The False Subtlety of the Four Syllogistic Figures," Wal 85–105]. {LS}

syllogism of the second or third figure. But since this demands a deeper investigation, I do not wish **<64>** to confuse students with it.

2) This one too reduces to the categorical syllogism of the first figure, in that one says,

> every time the sun has risen (A), it is day (B);
> but just now (C) the sun has risen (A);
> therefore, now (C) it is day (B).

The minor premise is then a singular proposition.

3) If one wishes, one can change it into the first figure; it then becomes a categorical syllogism. E.g., when one says,

> all imprecise numbers (A) are not precise (B);
> this number (C) **{226}** is imprecise (A);
> therefore, this number (C) is not precise (B).

Or: "All warm water is not cold and not mild; now, etc."

4) The first *modus*:

> if the sun has risen, it is day;
> now the sun has risen;
> therefore, it is day.

The second *modus*:

> right now it is not day;

therefore, the sun has not risen.

For the affirmation of the consequent[206] follows from the affirmation of the antecedent,[207] and the denial of the antecedent follows from the denial of the consequent. But from the denial of the antecedent and the affirmation of the consequent, there results no inference at all. In the first *modus* the conclusion is affirmative, and in the second *modus* the conclusion is negative.

5) For the conclusion is sometimes affirmative, sometimes negative, and sometimes conditional. In the first *modus*, the conclusion is affirmative; e.g.,

> this number is either precise or imprecise;
>
> now it is not precise;
>
> therefore, it is imprecise

—or vice versa. Thus,

> this water is either warm or cold or mild;
>
> now **<65>** it is not warm and not cold;
>
> therefore, it is mild.

The second *modus* is present if the conclusion is negative. E.g.:

> this number is either precise or imprecise;
>
> now it is precise;
>
> therefore, it is not imprecise

—or vice versa. Thus, in the second example,

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206 Ger.: *des Folgenden*. Heb.: המתאחר.
207 Ger.: *des Vorangehenden*. Heb.: הקודם.

this water is cold;

therefore, it is not mild and not warm.

The third *modus* is present if the conclusion is conditional; for instance, if one says in the second aforementioned example,

this water is either cold or mild or warm;

now it is not cold;

therefore, it is either mild or warm.

This is meant in the text. I have amplified it somewhat, so that you can understand Maimonides' expositions and they will not seem to you as the words of a sealed book. **{227}**

6) This species of syllogism is frequently found in the Talmud. For everywhere it says, "If you do not say such and suchº, there is a difficulty," or "if you mean such and such, there is a difficulty," an indirect proof is being availed of. In mathematics too, it is of great benefit, as is well-known to readers of Euclid. I will adduce an example for you. If you wish to prove the proposition, "A figure bounded by two straight lines is impossible," then you assume the contrary, "A figure bounded by two straight lines is possible," and you say,

every figure that is bounded on all sides by straight lines has more than two angles;

accordingly, this figure too has more than two angles;

and further,

three angles are not possible without three sides;

therefore, the present figure also has three sides.

But we have assumed the contrary of the proposition that we wished to prove and have presupposed that the figure is two-sided. Therefore, the contrary of the proposition is false, and this proposition is necessarily true; for every proposition cannot but be either true or false.

7) That is, as long as we do not know whether or not the predicate belongs to all subjects of the proposition, we investigate the individuals of the species being spoken of in the subject, as to whether **<66>** the predicate concerned belongs to most of them; then we consider[208] the proposition universally valid and say, "Every subject A belongs to the predicate B." This method is not demonstrative, as is seen from the example adduced by Maimonides. We consider the proposition universally valid and say, "All bodies are artificially made." Since we have seen, namely, that most individuals of the species that is meant in the subject, e.g., the treasury, the chair, the candlestick, etc., are artificially made, we take our cue[209] from the plurality[210] established in the investigation[211] and conclude about the sky as well,[212] although it does not necessarily ensue from the definition of a body that it is artificially made. **{228}**

8) These are according to the species of the thirteen principles that Rabbi Ishmael has supplied.

{229} <101>

CHAPTER 11

[MAIMONIDES' TEXT][213] . . . There are words that signify something that is understood only if it is compared with something else, as, e.g., "long" and "short" and the like. It is not understood that this is long when it is not being compared with something that is shorter than it. It cannot be represented that this is short before something that is longer than it is has been thought. This relationship between the long and the short and the like is called a "relation,"**12)**[214] each of the two is called a "*relatum*,"[215] and both together are called "*relata*." It is the same with "above" and "below," "half" and "double,"**13)**[216] "earlier" and **<102>** "later," "different"**14)**[217] and "alike,"**15)**[218] "lover" and "hater," "father" and "son," "servant" and "master." For each of these and the like is called a "*relatum*." For none may be conceived unless it is set alongside

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208 Elsewhere: contemplate. Ger.: *betrachten*. Heb.: נחליט. Likewise in the next sentence. Cf. *Logik* 201n46 and 207n107, above.

209 Ger.: *richten uns*. Heb.: הלכנו.

210 Ger.: *Mehrheit*. Heb.: רוב.

211 Ger.: *Untersuchung*. Heb.: חפוש.

212 Ger.: *und schließen auch auf den Himmel*. Heb.: וגזרנו אומר אף על השמים.

213 In the part of chapter 11 omitted by us, the terms "essential and accidental," "act and potential," "reality and privation," etc., are explained. {LS}

214 Ger.: *Relation*. Heb.: הצטרפות.

215 Ger.: *Relatum*. Heb.: מצטרף.

216 Ger.: *Halb und Doppelt*. Heb.: החצי והכפל.

217 Ger.: *Verschieden*. Heb.: המתחלף.

218 Ger.: *Gleich*. Heb.: השוה.

something else and compared. This relationship[219] between them is called a "relation." . . .
<101>

12) On closer examination,[220] it is found that cold and warmth too are *relata*. For it is found that one and the same thing is cold for Reuben and warm for Simon, or cold for Reuben's right hand and warm for his left hand. For if, e.g., his right hand cools and his left hand warms and then both hands are put into mild water, then the water will be cold to the left hand and warm to the right hand. In fact, the expressions "cold" and "warm" are intelligible only by comparison[221] with the body of the one discoursing; for in fact every body is cold in one relation and warm in another relation:[222] cold as compared with something warmer, and warm as compared with something colder. Cold and warmth are therefore *relata*.

13) That is,[223] **<102>** half of a number compared with the number that is its <the half's> double.

14) The different is related to that from which it is distinguished.[224] For the different and the alike are opposites,[225] since when one of them exists the other cannot be. Thus, love and hatred are opposites. For love is nothing else but joy at the happiness[226] that the beloved experiences and {230} pain at his unhappiness;[227] and hatred is the contrary of love, namely, pain at the happiness of the one hated and joy at his unhappiness. But why should we not understand these expressions without comparison with what is being differentiated from them and without relation to the latter? Rather, it is certain that Maimonides means that the different is relative[228] to that from which it is being differentiated, the alike is relative to that which it is like, the lover is relative to the beloved, and the hater is relative to the one hated.

15) This[229] too is relative, namely, to that which it is like. Thus the lover is to the beloved, and the hater to the human being whom he hates.

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219 Ger.: *Verhältnis*. Heb.: יחס.

220 Ger.: *Bei genauerer Erwägung*. Heb.: כשתדקדק.

221 Ger.: *Vergleichung*. Heb.: בהקשה.

222 Ger.: *in einer Beziehung kalt und in anderer Beziehung warm*. Heb.: קר מצד וחם מצד.

223 I.e., "half" and "double."

224 [Ger.:] *Das Verschiedene bezieht sich auf das, wovon es unterscheiden ist*. [Heb.: מצטרף לדבר אשר הוא מתחלף.] The German° translation is transliterated° in the Hebrew° text. {LS}

225 Ger.: *Gegensätze*. Heb.: מן ההפכים.

226 More or less lit.: good fortune. Ger.: *Glück*. Heb.: טוב.

227 More or less lit.: misfortune. Ger.: *Unglück*. Heb.: רעה.

228 Ger.: *relativ*. Heb.: מצטרף.

229 I.e., the "alike."