vi.4 On syllogisms constructed out of predicative propositions and propositional compounds in the first figure: and with the predicative premise serving as major premise in the three figures

These syllogisms divide into two groups. In the first group the predicative proposition serves as the major premise, and in the second group it serves as the minor premise.

Another dividing line is that in some of them the predicative premise shares a term with the consequent of the first premise, while in others it shares a term with the antecedent of the first premise. Let us start with

[6.4.1] These syllogisms divide into two groups. In the first group the predicative proposition serves as the major premise, and in the second group it serves as the minor premise.

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{‘First premise’ is wrong; he means the propositional compound premise, which is first only in the ‘first group’ just described. }

{NB Explicit that he will look only at those moods that are productive in their absolute form. }

{The enumeration is as in Qiyṣās ii.4. }
that we have indicated [in the predicative case] how to find the terms that prove their sterility.

{The implication is that the terms proving sterility of the predicative syllogisms also serve for the corresponding ones here.}
together with the predicative premise, taking these two as premises on their own. But if the meet-like proposition is negative, then it’s not obvious that anything follows, though it becomes clear when one converts the negative premise into affirmative form.

[6.4.3] The moods of the first group when the meet-like proposition is affirmative are as follows.

Whenever \( r \), then every \( C \) is a \( D \);

(1) every \( D \) is an \( A \).

[It entails:] Whenever \( r \), then every \( C \) is an \( A \).

{Based on predicative mood i.1 Barbara.}

{Ibn Sinā uses ‘\( H \) is \( Z \)’ to stand for the added antecedent, because he doesn’t normally use variables for propositions. Since in this case the form of the antecedent is irrelevant, I write it as \( r \).

One shouldn’t raise the following objection to these moods and similar ones:

Sometimes the predicative premise is true in itself but not true under the assumption of the antecedent [of the other premise], so there doesn’t have to be a syllogism. For example when you say:

(3) Whenever space is empty, spatial distances are absolute;

but spatial distances are not absolute (or: nothing absolute is a spatial distance).

Here a true predicative premise has a content that is contradictory to the consequent.
{NB This is another take on nonmonotonicity of counterfactual reasoning, I think. }

Actually the point is not clear. The objector’s syllogism is not an example of the format being discussed in this chapter. (It’s of the form MTT, which Ibn Sinâ lists at 395.8 below.) That could be Ibn Sinâ’s own point at 326.9 below: the form of the argument requires premises \( p \to q \) and \( \neg q \), and the underlying predicate argument would have premises \( q \) and \( \neg q \) which should not be listed at all — whether or not as examples of this format. So the objector’s argument illustrates that syllogisms of the overall form \( (p \to \phi), \psi \) can be valid for reasons other than the underlying predicative argument, and that could be Ibn Sinâ’s own point at 326.10 where he says that the conclusion does validly follow. But there could also be a reference to the point about nonmonotonicity, bearing in mind that we don’t know that similar arguments of the present format couldn’t be cooked up. But Ibn Sinâ doesn’t mention this aspect in his answers. }

There are two ways of answering this objection.

The first of them is that we should list [only] the premise-pairs in which the two premises are compatible.

{The first answer misses the main point. What is enumerated is not syllogisms but moods, which are forms that hold infinitely many different syllogisms. The implication of this answer is that no mood that allows a syllogism like the quoted one should be included in the list. }

The second is that what follows from these two premises is in fact true. In 326.10 fact if space was empty then it would follow

the predicate argument would have premises \( q \) and \( \neg q \) which should not be listed at all — whether or not as examples of this format. So the objector’s argument illustrates that syllogisms of the overall form \( (p \to \phi), \psi \) can be valid for reasons other than the underlying predicative argument, and that could be Ibn Sinâ’s own point at 326.10 where he says that the conclusion does validly follow. But there could also be a reference to the point about nonmonotonicity, bearing in mind that we don’t know that similar arguments of the present format couldn’t be cooked up. But Ibn Sinâ doesn’t mention this aspect in his answers. }

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min aff meet-like, fig i

QIYAS vi.4

{I think it has to be wa-‘an in place of the Cairo wa-‘in, though that looks implausible. Normally one would automatically read wa-an k¯ana as wa-‘in k¯ana — though wa-‘an k¯ana seems to be right at Qiy¯as 547.16. Ibn S¯ın¯a’s answer here is unhelpful; he should have said simply that the consequence is that space is not empty. }

الضررب الثاني: كَمَا كَانَ هَا زَ , فَكَلَّ جَ دَ , وَلَا ضَيْعٌ مِنْ دَ آ أَ. فِكَلَّمَا


Whenever r, then every C is a D;
(4) and no D is an A;
so whenever r then no C is an A.

{This is based on predicative syllogism i.2 Celarent. }

كان هَا زَ ، فَلَا ضَيْعٌ مِنْ جَ آ أَ. كَمَا كَانَ هَا زَ , فَبَعْضٌ جَ دَ , وَكَلَّ دَ آ أَ. فِكَلَّمَا

[The third mood:] 326.13

Whenever r, then some C is a D;
(5) and every D is an A;
so whenever r, then some C is an A.

{This is based on predicative mood i.3 Darii. }

كان هَا زَ ، فَبَعْضٌ جَ آ أَ. كَمَا كَانَ هَا زَ , فَبَعْضٌ جَ دَ , وَلَا ضَيْعٌ مِنْ دَ آ أَ.

[The fourth mood:] 326.16

Whenever r, then some C is a D;
(6) and no D is an A;
so whenever r, then not every C is an A.

فِكَلَّمَا كَانَ هَا زَ , فَلِيسَ كَلَّ جَ آ أَ .

وَأَرْبَعَةٌ أُخْرِى مَتَّصَلَّاهَا جَرْبِيَّةَ.

There are four other moods; the [time] quantifier in their meet-like premises is existentially quantified.
We consider the moods of the first group where the meet-like premise is negative. For these a necessary condition for productivity is that the consequents of the propositional premises are negative and the predicative premises are universally quantified. For example:

(7) It is never the case when \( r \) that not every \( C \) is a \( D \); and every \( D \) is an \( A \).

It entails: It is never the case when \( r \) that not every \( C \) is an \( A \).

{Based on Barbara.}

\[
\text{كان } \exists z \quad \text{ فلا كل } \exists z \quad \text{ وكل } \forall x \quad \text{ ينتج: ليس البتة إذا كان } \exists z \\
\text{ فلا كل } \exists z \quad \text{ برهاان ذلك أن } \text{ المتصلة يلزمها: كلما كان } \exists z \quad \text{ فكل } \exists z \\
\] 

This is demonstrated as follows: From the meet-like premise it follows that

(8) Whenever \( r \) then every \( C \) is a \( D \).

\[
\text{ وكل } \forall x \quad \text{ ينتج: كلما كان } \exists z \quad \text{ فكل } \exists z \quad \\
\text{ Also}
\]

(9) Every \( D \) is an \( A \).

So (8) and (9) entail [(as in (1))]:

(10) Whenever \( r \), then every \( C \) is an \( A \).

From (10) it follows that

(11) It is never the case when \( r \) that not every \( C \) is an \( A \).
[6.4.6] Now you can learn the facts about the remaining moods from this single case. They are:

(12) It is never the case that when \( r \) then no \( C \) is a \( D \);
and every \( D \) is an \( A \).

It entails: It is never the case when \( r \) that no \( C \) is an \( A \).

\{This is based on \textit{Darii}. NB the one based on \textit{Celarent} has gone missing. \}

\begin{align*}
\text{إذا كان} \, \text{ر} \, \text{ز} \, \text{فلا شيء من} \, \text{ج} \, \text{ز} \, \text{ولكن} \, \text{د} \, \text{أ} \, \text{ينتج: ليس البتة إذا كان} \, \text{ر} \, \text{ز} \, \text{فلا شيء من} \, \text{ج} \, \text{ز} \, \text{و لا شيء من} \, \text{د} \, \text{أ} \, \\
\text{It is never the case when} \, \text{r} \, \text{that no} \, \text{C} \, \text{is a} \, \text{D}; \\
\text{and no} \, \text{D} \, \text{is an} \, \text{A}. \\
\text{It entails: It is never the case when} \, \text{r} \, \text{that every} \, \text{C} \, \text{is an} \, \text{A}. \\
\text{This is based on} \textit{Ferio}. \}
\end{align*}

And there are four other moods where the meet-like premises are negative and carry an existential [time] quantifier.

[6.4.7] We consider the premise-pairs [whose underlying predicative mood] has the form of the second figure,
The first mood:

Whenever \( r \), then every \( C \) is a \( D \);
14) and no \( A \) is a \( D \).
So whenever \( r \), then no \( C \) is an \( A \).

\{Correct \( d \) \( a \) to \( d \) (as Shehaby), though there is no supporting ms evidence. This mood is based on predicative mood ii.1 Cesare, Qiyās 114.5. \}

\[ \text{فكلما كان } d \rightarrow z, \text{ فلا شيء من } z \rightarrow a. \text{ فرهانه أن نعكس الحملية، وأيضاً } \]

It can be demonstrated by converting the predicative premise. It can also be demonstrated

\[ \text{أن نقول: كُلما كان } d \rightarrow z, \text{ فَجَة } d \rightarrow z \text{ حقًا، وأنه لا شيء من } a \rightarrow d. \text{ كُلما كان} \]

as follows:

Whenever \( r \), then \( C \) is a \( D \);
15) and no \( A \) is a \( D \).
But whenever \( C \) is a \( D \) and no \( A \) is a \( D \), then no \( C \) is an \( A \).
It entails: Whenever \( r \), then no \( C \) is an \( A \).

\{In this line he says not ‘Every \( C \) is a \( D \)’ but ‘It is true that \( C \) is \( D \)’. I omit the ‘It is true that’ and add the missing quantifier, since there is no evidence that either of these changes are more than stylistic variants. \}

\{A further point: the two demonstrations differ in that one (the second) establishes predicative Cesare and then applies the condition, whereas the other applies the conversion proving Cesare to premises with the condition attached. This seems to show that Ibn Sīnā himself thought of adding the condition as a proof operation. Technically, note that Cesare is introduced as a single proposition with a ‘Whenever’ quantifier. \}

\[ \text{فَجَة } d \rightarrow z \text{ حقًا، ولا شيء من } a \rightarrow d \text{ حقًا، فلا شيء من } a \rightarrow z. \text{ ينتج، كُلما كان} \]

7. \( d \rightarrow z \text{ حقًا، ولا شيء من } a \rightarrow d. \text{ كُلما كان} \]

8
The second mood: 328.1
(16) Whenever \( r \), no \( C \) is a \( D \);
and every \( A \) is a \( D \).

It entails the same conclusion the first mood.
{Based on predicative mood ii.2 Camestres, Qiy\(\text{\textbar}s \) 115.17.}

This can be demonstrated by converting the consequent of the propositional premise.

The third mood: 328.3
(17) Whenever \( r \), then some \( C \) is a \( D \);
and no \( A \) is a \( D \).

It entails: Whenever \( r \), then not every \( C \) is a \( D \).
{Based on predicative mood ii.3 Festino, Qiy\(\text{\textbar}s \) 116.4.}

This can be proved by converting the predicative premise.

The fourth mood: 328.5
(18) Whenever \( r \), then not every \( C \) is a \( D \);
and every \( A \) is a \( D \).

It entails the same conclusion as the third mood.
{Based on predicative mood ii.4 Baroco, 116.7.}

The demonstration is that

\[ \text{Whenever not every } C \text{ is a } D, \text{ but every } A \text{ is a } D, \text{ then not every } C \text{ is an } A. \]
Then by this and the premises in (18),

(20) Whenever \( r \), then not every \( C \) is an \( A \).

And there are four other moods where the meet-like premise carries an existential [time] quantifier.

[6.4.8] We consider the moods of the first group which have a negative meet-like premise. Their productivity condition is that the predicative premise has the same quality as the consequent of the propositional premise,

and the predicative premise is universally quantified.

The first mood:

(21) It is never the case when \( r \) that not every \( C \) is a \( D \);
and no \( A \) is a \( D \).

It entails: It is never the case when \( r \) that some \( C \) is an \( A \).

{Based on Cesare.}

This is because it follows from the propositional premise that

(22) Whenever \( r \), then every \( C \) is a \( D \).

Then it follows [from (22) and the second premise in (21) that

(23) (Whenever \( r \) then no \( C \) is an \( A \).

And it follows from (23) that

(24) It is never the case when \( r \) that some \( C \) is an \( A \).
The second mood: 328.16

(25) It is never the case when \( r \) that some \( C \) is a \( D \); and every \( A \) is a \( D \).

It entails

{Based on *Camestres*.}

the same conclusion as the first mood.
The third mood:

It is never the case when \( r \) that no \( C \) is a \( D \);
and no \( A \) is a \( D \).

It entails: It is never the case when \( r \) that every \( C \) is an \( A \).

{Based on Festino.\

التبني إذا كان 
فكل 

The fourth mood:

It is never the case when \( r \) that every \( C \) is a \( D \);
and every \( A \) is a \( D \).

It entails: It is never the case when \( r \) that every \( C \) is an \( A \).

{Based on Baroco.\

التليفています على هيئة الشكل الثالث.

[6.4.8] We consider the premise-pairs [whose underlying predicative syllogism] has the form of the third figure,

starting with the moods of the first group whose meet-like premise is affirmative.

The first mood:

Whenever \( r \), then every \( C \) is a \( D \);
and every \( C \) is an \( A \).

It entails: Whenever \( r \), then some \( D \) is an \( A \).

{Based on predicative mood iii.1 Darapti, Qiy\( \dot{s} \)s 117.6.\

\( \dot{\text{ذ}} \), فبعض 
\( \dot{\text{ذ}} \). يبين بعض التالي.
This is proved by conversion of the consequent of the propositional premise.

The second mood:

Whenever \( r \), then every \( C \) is a \( D \);
and no \( C \) is an \( A \).

It entails: Whenever \( r \), then not every \( D \) is an \( A \).

\{Based on predicative mood iii.2 Felapton, Qiyās 117.13. \}

This is proved by conversion of the consequent of the propositional premise. 329.10

The third mood:

Whenever \( r \), then some \( C \) is a \( D \);
and every \( C \) is an \( A \).

It entails the same conclusion as the first mood,
\{Based on predicative syllogism iii.3 Datisi, Qiyās 118.3. \}

This is proved by conversion of the consequent of the propositional premise.

The fourth mood:

Whenever \( r \), then every \( C \) is a \( D \);
and some \( C \) is an \( A \).

It entails the same conclusion as the first mood,
\{Based on predicative mood iii.4 Disamis, Qiyās 118.6. \}

This is proved as follows.

(32) Whenever every \( C \) is a \( D \) and some \( C \) is an \( A \), some \( D \) is an \( A \).
Then [by the premises of (31) together with (32)]:

(33) Whenever \( r \), then some \( D \) is an \( A \).

The fifth mood: 329.16

Whenever \( r \), then every \( C \) is a \( D \);

(34) and not every \( C \) is an \( A \).

It entails: Whenever \( r \), then not every \( D \) is an \( A \).

{Based on predicative mood iii.5 Bocardo, Qiyâs 118.13.}

This is proved in the same way as the fourth mood.
The sixth mood:

Whenever \( r \), then some \( C \) is a \( D \);
(35) and no \( C \) is an \( A \).
It entails the same conclusion as the fifth mood.

{Based on predicative mood iii.6 Ferison, Qiyās 119.5. }

This is proved by conversion of the consequent of the propositional premise.

And there are six other moods whose meet-like premise carries an existential [time] quantifier.

[6.4.9] We consider the moods of the first group where the meet-like premise is negative. The conditions of productivity are that the consequent of the propositional premise is negative, and

of course that one of the two propositions — I mean the consequent of the propositional premise or the predicative premise — is universally quantified.

The first mood:

It is never the case when \( p \) that not every \( C \) is a \( D \);
(36) and every \( C \) is an \( H \).
It entails: It is never the case when \( p \) that not every \( D \) is an \( H \).

{Based on Datisi. Replace fa-lā šay’a min by fa-kullu as in some mss. The present Cairo reading makes this mood identical with the third one below. }

This is proved by conversion of the meet-like premise to
The second mood:

It is never the case when \( p \) that no \( C \) is a \( D \); and no \( C \) is an \( H \).

It entails: It is never the case when \( p \) that every \( D \) is an \( H \).

{Based on Ferison. Replace the Cairo \( l\)a kullu by \( l\)a \( say\)'a min as in \( s \).}

This is proved by reduction of the meet-like premise to an affirmative proposition,

{The reduction is presumably to ‘It is always the case when \( p \) that some \( C \) is a \( D \)’. In fact the form ‘Never when \( p \) then \( q \)’ is misleading, since it is read as giving the temporal quantifier wide scope: ‘Whenever \( p \) then not \( q \)’.}

This is proved by reduction of the meet-like premise to an affirmative proposition, together with conversion of its consequent.

The third mood:

It is never the case when \( p \) that no \( C \) is a \( D \); and every \( C \) is an \( H \).

It entails: It is never the case when \( p \) that no \( D \) is an \( H \).

{Based on Datisi.}

This is proved by reduction of the meet-like premise to an affirmative proposition, together with conversion of its consequent.
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The fourth mood:

It is never the case when $p$ that not every $C$ is a $D$;
and some $C$ is an $H$.
It entails: It is never the case when $p$ that no $D$ is an $H$.

{This is from Disamis.}

The fifth mood:

It is never the case when $p$ that not every $C$ is a $D$;
and not every $C$ is an $H$.
It entails: It is never the case when $p$ that every $D$ is an $H$.

{From Bocardo.}

The sixth mood:

It is never the case when $p$ that every $C$ is a $D$;
and no $C$ is an $H$.
It entails the same conclusion as the second mood.
{Based on Ferison.}
This is proved by conversion of the meet-like premise to an affirmative proposition, and then taking a consequence of the conclusion of the resulting syllogism.

There are six other moods, whose meet-like premise carries an existential [time] quantifier.

[6.4.10] Next let us enumerate the types of the second group of premise pairs,

{He refers here to ‘the latter ones’ (ḥāḍīhi). This picks up from 325.11.}

where the meet-like premise serves as the major premise, and let us begin with the analogue of the first figure [of predicative syllogisms].

We consider the moods of the first group where the meet-like premise is affirmative. The conditions for productivity are that the relation between the predicative premise and the consequent of the propositional premise meets the productivity condition for premise-pairs of the first figure in predicative syllogisms.

The conclusion will be a meet-like proposition whose consequent is what would be the conclusion from the two predicative propositions if one separated them out [from the premises].

The first mood:
Every $C$ is a $B$;  
and whenever $r$ then every $B$ is an $A$. 
So whenever $r$, then every $C$ is an $A$. 

The second mood: 

Every $C$ is a $B$;  
and whenever $r$ then no $B$ is an $A$. 
So whenever $r$ then no $C$ is an $A$. 
The third mood: 332.1

Some $C$ is a $B$;
and whenever $r$ then every $B$ is an $A$.
So whenever $r$ then some $C$ is an $A$.

The fourth mood: 332.3

Some $C$ is a $B$;
and whenever $r$ then no $B$ is an $A$.
So whenever $r$, then some $C$ is not an $A$.

There are four other moods; in them the meet-like premise carries an existential [time] quantifier.

[6.4.11] We consider the moods of the first group where the meet-like premise is negative. The productivity condition is that the consequent of the propositional premise is existentially quantified.

The first mood: 332.7

Every $C$ is a $B$;
and it is never the case when $r$ that not every $B$ is an $A$.
So it is never the case when $r$ that not every $C$ is an $A$.

This is proved by conversion of the meet-like premise to an affirmative proposition,

\[ \neg \exists x (C(x) \land \neg B(x)) \rightarrow \exists x (\neg C(x) \land A(x)) \]

and then taking a consequence of the conclusion of the resulting syllogism.

The second mood: 332.10

Every \( C \) is a \( B \);

(47) and it is never the case when \( r \) that some \( B \) is \( A \).

So it is never the case when \( r \) that some \( C \) is \( A \).

\[ \neg \exists x (C(x) \land \neg B(x)) \rightarrow \exists x (\neg C(x) \land A(x)) \]

The third mood: 332.12

Some \( C \) is a \( B \);

(48) and it is never the case when \( r \) that not every \( B \) is an \( A \).

So it is never the case when \( r \) that no \( C \) is an \( A \).

\[ \neg \exists x (C(x) \land \neg B(x)) \rightarrow \exists x (\neg C(x) \land A(x)) \]

And the third mood:

\[ \neg \exists x (C(x) \land \neg B(x)) \rightarrow \exists x (\neg C(x) \land A(x)) \]

This is proved as before.

{Again correct as in ms \( s \) as required by the logic; the Cairo \( \text{laysa kullu} \) should read \( \text{lā say’a min} \).}

The fourth mood: 332.14

Some \( C \) is a \( B \);

(49) and it is never the case when \( r \) that some \( B \) is an \( A \).

So it is never the case when \( r \) that every \( C \) is an \( A \).

\[ \neg \exists x (C(x) \land \neg B(x)) \rightarrow \exists x (\neg C(x) \land A(x)) \]

{At the end of line 14 the Cairo \( jā \) should be \( bā \), not noticed in the mss; Shehaby has it right.}

\[ \neg \exists x (C(x) \land \neg B(x)) \rightarrow \exists x (\neg C(x) \land A(x)) \]

This is proved as before.

{Again correct for the logic, this time following mss \( s, sā, h \); the Cairo \( bā’d \) should be \( kull \).}
There are four other moods; in them the meet-like premise carries an existential [time] quantifier.

[6.4.12] We consider the premise-pairs that follow the schedule of the second figure,

starting with the moods where the meet-like premise is affirmative. The [productivity] conditions relating the predicative premise and the consequent of the other premise are the same as for predicative syllogisms.

The first mood:

Every $C$ is a $B$;

and whenever $r$ then no $A$ is a $B$.

It entails: Whenever $r$, then no $C$ is an $A$.

{For the logic, correct the Cairo $\dot{d}$ to $\dot{b}$, as Shehaby but with no supporting mss.}

This is proved by conversion of the consequent of the propositional premise.

The second mood:

No $C$ is a $B$;

and whenever $r$ then every $A$ is a $B$.

Its conclusion is the same as for the previous mood.
This is proved by conversion of the predicative premise, and then conversion of the consequent of the propositional premise, together with conversion of the conclusion.

المضرب الثالث: بعض ج ب، وكما كان ه ز، فلا شيء من أ ب. ينتج:

The third mood:

Some C is a B;
and whenever r, then no A is a B.
It entails: Whenever r, then not every C is an A.

333.9

The fourth mood:

Not every C is a B;
and whenever r, then every A is a B.

333.11

Its conclusion is the same as that of the third mood.

{Again mss s and h get the logic right. Correct the first kullu in the Cairo edition to laysa kullu, and lā kullu to kullu. The same corrections are needed in lines 12 and 13, unfortunately not supported by the mss except for a misguided attempt in h.}

كالثالث، ويتبين هكذا: كمما كان ه ز، فقل أن كل أ ب، وحق

This is proved as follows:

Whenever r then every A is a B;
and not every C is a B.

54 Whenever the last two propositions are true, not every C is an A.
It entails that whenever r then not every C is an A.
There are four other moods; their meet-like premise carries an existential [time] quantifier.

[6.4.13] We consider the moods of this group whose meet-like premise is negative. The [productivity] condition is that the consequent of the propositional premise is existentially quantified and agrees in quality with the predicative premise.
The first mood: 334.1

Every $C$ is a $B$;
and it is never the case when $r$ that some $A$ is a $B$.
It entails: It is never the case when $r$ that some $C$ is an $A$.

The second: 334.3

No $C$ is a $B$;
and it is never the case when $r$ that not every $A$ is a $B$.
Its conclusion is the same as that of the previous mood.

The third: 334.5

Some $C$ is a $B$;
and it is never the case when $r$ that some $A$ is a $B$.
It entails: it is never the case when $r$ that every $C$ is an $A$.

The fourth: 334.7

Not every $C$ is a $B$;
and it is never the case when $r$ that not every $A$ is a $B$.
Its conclusion is the same as that of the third mood.
All of this is proved by conversion of the negative premise to an affirmative proposition, and taking a consequence of the conclusion of the resulting syllogism.

There are a further four moods in which the meet-like premise carries an existential [time] quantifier.

{The cases with existential time quantification should be in one-to-one correspondence with those with universal time quantification, and he lists four of these. So we should follow mss s, h yet again and correct the Cairo sitta to 'arba'a.}

[6.4.14] We consider the premise-pairs in the second group which follow the schedule of the third [predicative] figure, starting with the moods where both premises are affirmative.

The first mood:
Every $C$ is a $B$;
and whenever $r$ then every $C$ is an $A$.
So whenever $r$ then some $B$ is an $A$.

This is proved by conversion of the predicative premise.

The second mood:
Every $C$ is a $B$;
and whenever $r$ then no $C$ is an $A$.
And [the conclusion is that] whenever $r$, then not every $B$ is an $A$.

This is proved by conversion of the predicative premise.

The third mood:
Some $C$ is a $B$;
(61) and whenever $r$ then every $C$ is an $A$.
So whenever $r$, so some $B$ is an $A$.

هَيْنَمْ بَعْضُ بَ، وَبِيِّنَ بِعِكَسِ اللَّحْمِيَّةِ.
This is proved by conversion of the predicative premise.
The fourth mood: 335.1

(62) Every C is a B;
and whenever r then some C is an A.

This is proved by conversion of the consequent of the propositional premise.

The fifth mood: 335.3

(63) Every C is a B;
and whenever r then not every C is an A.
It entails: Whenever r, then not every B is an A.

This is proved as follows.

Whenever r, then not every C is an A;
and also every C is a B;
and when not every C is an A and every C is a B, then not every B is an A.
It entails: Whenever r, then not every B is an A.

The sixth mood: 335.7

(65) Some C is a B;
and whenever r, then no C is an A.
Its conclusion is the same as that of the fifth mood.
This is proved by conversion of the predicative premise.

ضروب ذلك من سالتبين.

[6.4.15] We consider the moods of the second group where the meet-like premise is negative.

{For the Cairo min sālibatayn read wa-l-muttašilatu sālibatun. This text appears in s and h but added to min sālibatayn rather than replacing it. }

الضرب الأول: ۱۶۷۷ ج ب، وليس البينة إذا كان ه ز، فلا كل ج آ.

The first mood:

Every C is a B;

and it is never the case when r that not every C is an A.

So it is never the case when r that no B is an A.

فليس البينة إذا كان ه ز، فلا شيء من ب آ.

الثاني: ۱۶۷۱ ج ب، وليس البينة إذا كان ه ز، فبعض ج آ. فليس البينة.

The second mood:

Every C is a B;

and it is never the case when r that some C is an A.

So it is never the case when r that every B is an A.

إذا كان ه ز، فكل ب آ.

الثالث: ۱۶۷۳ ج ب، وليس البينة إذا كان ه ز، فلا شيء من ج آ. فليس.

The third:

Every C is a B;

and it is never the case when r that no C is an A.

So it is never the case when r that no B is an A.

الbine إذا كان ه ز، فلا شيء من ب آ.
The fourth: 336.1

Some $C$ is a $B$;

and it is never the case when $r$ that not every $C$ is an $A$.

So it is never the case when $r$ that no $B$ is an $A$.

The fifth: 336.3

Every $C$ is a $B$;

and it is never the case when $r$ that every $C$ is an $A$.

So it is never the case when $r$ that every $B$ is an $A$.

The sixth: 336.5

Some $C$ is a $B$;

and it is never the case when $r$ that some $C$ is an $A$.

So it is never the case when $r$ that every $B$ is an $A$.

All of these are proved by reduction of the meet-like premise to an affirmative proposition,

and then taking a consequence of the conclusion of the resulting syllogism. All except one can also be proved by conversion. CHECK THIS.

And again there are six moods where the meet-like premise carries an existential [time] quantifier..