181

في القياسات الممكنة في الشكل الأول
iv.1 On possibility syllogisms in the first figure

[4.1.1] So now let us begin the theory of syllogisms about the possible. 181.6

Every C is a B with possibility;
and every B is an A with possibility;
proving that every C is an A with possibility.

بالإمكان، فبين أن كل ج أ بالإمكان. وذلك لأن ج داخلة بالقوة تحت
This is because C is potentially included in

B, so that whatever is true of Bs is potentially true of Cs. This is a perfect syllogism.
[4.1.2] But there has been some disagreement about this,

تشاجر، فقال بعضهم: إن هذا القياس لا يجب أن يكون بيّنا كاملا بنفسه

and some people have said:

It shouldn’t be counted as evident and perfect in itself,

أنه قياس، وإنما يجب كما نظراً فهما سلف؛ إذ كان ج بالفعل ب،

that this is a syllogism; it is compelling in the same kind of way

as similar cases that arose earlier. When a C is in act a B,

{Read nuzar’uḥu. }

ما يقال على ب يدخل فيه ج. وأما إذا كان الدخول فيه بالقوة، كان

whatever is true of a B is true of a C. But in the case where the

inclusion of the C's in the B's is potential, the situation is

كما في الشكل الثاني والثالث. فإن الشكل الثاني قد حكم فيه أن ج بالفعل ب.

as in the second and third figures. In the second figure it is

stated that a C is in act a B.

{In fact these people start by arguing that the situation is not

like second figure, but worse than it. The similarity to third

figure is greater. }
But in the possibility case, nothing is stated to be in act a $B$, so as to make the $C$s included [in the $B$s] in act. And a $C$, even if
{On my reading hunaka here and hâhunâ in line 182.4 both refer to the possibility case, not the assertoric second and third figure cases. This would be carelessness in Ibn Sina’s writing, so I should check it again. }
is like what happened in the third figure as regards what needs to be proved. So therefore this

*NB* ḥaytu here is specifying dimension of similarity, where the similarity is expressed by the *ka-mā.*

is not a perfect syllogism.

**[4.1.3]** Some people say: The sentence

Every *B* is an *A*;

but [in this argument as] in general, everything that is truly a *C* is a *C,* the criterion being that it is one of the things that are truly

*The mss show evidence of confusion in the text. The simplest resolution is to follow the manuscript N and omit *taḥta b*; the sense would then be that in the argument under discussion, the quantifier on the major premise should be amplified to possible *B*s but the quantifier on the minor premise should be kept unampliated. But there may be other resolutions. *}

[Cs]. Then if *C* was included in *B* in act, the syllogism would be perfect; but you already know

what these people say, this [approach] comes to grief when you make a small alteration and take the major premise to be absolute or a necessity proposition and the minor premise to be a possibility proposition; this makes the syllogism imperfect, and in order to see [why], there is no
alternative to considering \( C \) as not included in \( B \) in act. But there have been people who said that when one says

that it is a perfect syllogism, that doesn’t mean that it is a syllogism that is perfect in an absolute sense; rather it means that it is a [relatively perfect] syllogism

in comparison to another syllogism that comes later and is proved by means of it. The right comment on that is

that one shouldn’t spend any time on such forced and partisan arguments.
Rather one should learn [from them] that it often happens that something is clear for people to see, but people want to force the explanation in a particular direction and this compels them to deviate from what is clear. Just as it is clear that things that are true of [HUMAN] are true of [BEDOUIN], so likewise it is clear that a thing that is possible for the possible is possible.

There is no clear way of making this obvious fact more obvious than it already is.

[4.1.4] We say to anyone who takes refuge in saying that the expression $B$ means everything that is a $B$ potentially, or actually: surely you see that if a person says everything that is a $C$ in act can possibly be a $B$ and everything that is a $B$ in act can possibly be an $A$. 183.5

there is no way we can fail to judge that this is a syllogism. To claim not to know that this is a syllogism would be to carry nitpicking beyond all bounds. How could this not be
a syllogism, when another sentence follows from it intrinsically and permanently? If this is a syllogism, what are its premise-pair

وأي التأليفات؟ وإن كان قولهم ما هو ب، معنا ما هو يصح أن يكون ب،

and its composition? And if the phrase ‘what is a B’ means ‘what truly is a B’,

فقال: وما هو ممكن للممكن فهو ممكن، ويجعل هذه المقدمة من حقيقة أن

the statement

(4) What is possibly possible is possible.

making out that this premise should really be

{NB Achilles and the tortoise. }

يصرح بها لكنها أضحت، فهل قولهم: ممكن الممكن ممكن؟ غير قولهم:

stated explicitly but has got hidden, then is the sentence “The possible of the possible is possible” different from the sentence

{Who is the hum? At the end of this line it’s Aristotle Prior Analytics 32b39, which he quotes in shorthand but otherwise adequately. }

أ المكنة ل ب المكنة ل ج ممكنة ل ج؟ فهل أ إلا ما هو ممكن أي شيء؟

“If A [is] possibly true] of B, which is possibly true] of C [then A is] possibly true] of C”? And is A anything other than the thing that is possibly true] of whatever the [next] thing might be?

183.15

Transcription checked 7 Sep 12. Readings checked 4 Oct 12.
And is $B$ anything other than what $A$, the thing [said to be] possibly true, is possibly true of? And is $C$ other than the third thing? So the letter $A$ is in place of the expression ‘something’ because it is in place of the universal meaning, and it is not a specifically identified term. The letter $B$ is in place of {NB Discussion of the role of variables in schemata.}

The second thing, and $C$ is in place of ‘the third thing’. So it is absolutely clear that the possible of the possible is possible, just as the necessary of the necessary is necessary, and the truth of the truth is a truth. Granted, when you mix the modes you make it confusing to think about, so that scrutiny and investigation are needed, for example with ‘possibly necessary’ and ‘necessarily possible’; and likewise ‘possibly not the case together with possibly the case’.

[4.1.5] So it is clear that this syllogism is perfect, since there is nothing problematic about it, and it is not like the third or second figure.

And in fact the arrangements, both that of the universally quantified premise and that of the natural ordering, are both adjustable. The status of the lesser term

And is $B$ anything other than what $A$, the thing [said to be] possibly true, is possibly true of? And is $C$ other than the third thing? So the letter $A$ is
in the third figure, and of the sense in which it is potentially included in the universal content, is different from the status of its inclusion

in the present case. In fact the two cases differ in two ways.

The first of the two ways is that when we say that the lesser term in the two figures satisfies what is asserted of the middle term, it doesn’t mean that that thing is asserted to be true of the lesser term, either in act or potential. What it means is that the speaker didn’t in act assert it, but that the assertion he made, in act, was about something else.

What he asserted about that other thing, assuming it was true, was such that he could in the same circumstances have truthfully asserted it about the lesser term, and though it wasn’t at all either absurd or necessary for anybody to make that assertion, even if the assertion would have been true. I am not saying that that assertion didn’t have to be true;

the potential in question has nothing to do with the facts themselves. Rather it has to do with what the asserter

Transcription checked 7 Sep 12. Readings checked 6 Oct 12.
did in fact assert. He could perfectly well have asserted it and told the truth. But in the case of the possibility syllogism,

إذا حكم، فذلك كان له، وأمكنه أن يقول ذلك. ويكون صادقاً، وأما هنا it is not a question of whether something could potentially have been asserted; rather it is a question of the facts themselves, since $X$

فإن القوة ليست بحسب الحكم، بل بحسب الأمر في نفسه، إذ جعل في نفسه ممكن له الأمر، ولم يحكم بوجوده له. وليس يجب إذا كان ذلك النوع من was asserted to be possible for $Y$ and not asserted to be true of $Y$. If the first kind of {NB Possible contrasted with assertoric. }

الدخول بالقوة يجعل القياس غير كامل، أن يكون هذا النوع يجعله أيضاً غير potential inclusion prevents the syllogism from being perfect, it’s not necessarily the case that the second kind also prevents it from

كامل. 185.5

والوجه الثاني: أن الدخول بالقوة هنالك على أي وجه كان هو أمر في طبيعة

[4.1.7] The second way in which they differ is that in the case of the two figures, the potential inclusion, whatever form it takes, is a fact about the nature

الحدود الأصغر، وليس بلياً، بل يحتاج أن يبحث عنه لنعلمه وندهن عليه، of the lesser term. Also it is not an obvious fact, but rather it needs to be studied in order for us to know it and demonstrate it.

فيتضح لنا حينئذ أن ج بالقوة كانت داخلة تحت ب. فلو كان ذلك معلوماً But in the possibility case it is laid out explicitly that $C$ is potentially included under $B$. If that was something that made itself known

لنا بنفسه، كما هو حاصل في نفسه، ما كنت نحتاج إلى المكس وإلى غير ذلك. to us, like something self-verifying, we wouldn’t need the conversion and all the rest of it.
But in the possibility case we already know and have verified that \( C \) is 185.10 potentially included in the relevant content; since we know that it is potentially included in the content, it doesn’t require us to know anything else. In the case of the two figures

\[ \text{فإنّ الأصغر وإن كان داخلا بالقوة في الحكم فإنّما كان كذلك في نفسه;} \]

the lesser term is potentially included in the content, but this is a fact about it in itself,

\[ \text{وكان محجولا لنا، وكنا نطلب لنعلم ما له في طبّه.} \]

and we don’t know it without seeking to know how it is in its nature.

[4.1.8] We don’t say that the second and third figures fail to be perfect 185.14 for the simple reason that the lesser term in them

\[ \text{غير داخل تحت الحكم إلا بالقوة: بل لأن هذا الدخول الذي بالقوة غير معلوم} \]

is only potentially included in the content. The reason is rather that this potential inclusion is not known unless we study it. If this potential inclusion had been known [directly] from those premises, then we wouldn’t have had to do any work

\[ \text{بيّن به؛ بل إنّما نعمل ما نعمله من المكس وما يجري معرّاه، حتّى إذا} \]

to prove it. The only reason for us to do the conversion that we did do, and the rest of it, was so that when it was
included in act, we would know that without the conversion it was included potentially. If this potential inclusion

makes the thing a syllogism, then the fact of its being a potential inclusion will in itself make the thing a syllogism in itself, and the knowledge that it is a potential inclusion

gives us confirmation that the thing is a syllogism. So when we have the confirmation that the lesser term is potentially included in the content

the content, that also confirms for us that the composition is a syllogism. If we have the confirmation and the knowledge that the thing is

syllogistic, then why should we need to raise doubts about it or try to find things wrong with it? We have said enough about this

for anybody who is devoted to reaching the summit of knowledge and is not tempted into nonsense and drivel.

[4.1.9] The second mood has two universally quantified premises with the major premise negative, as in:

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

and it is possible that there is no \( B \) that is an \( A \);

so it is possible that there is no \( C \) that is an \( A \).
The facts about this are known.

The third mood is the other way round from the second, namely:

With possibility no \( C \) is a \( B \);

and every \( B \) is an \( A \) with possibility.

This is [the other way round] because its minor premise is negative and its major premise is affirmative. It is not stated explicitly that

\( C \) potentially falls under \( B \), but it is explicit that \( C \) potentially doesn’t fall under \( B \). So it is proved differently from the first mood,

{The reading \textit{tah\'a} in two manuscripts is better than \textit{yajibu}.}

since what is asserted entails the potential inclusion, though the potential inclusion is not asserted. So this mood is not
The mind notices the thing that it has introduced into its processing chamber, and it inspects that thing with a view to gaining from it the knowledge that the mind seeks.

{NB The bal, here distinguished from the dihn, which operates it. }

The knowledge that the mind seeks is that $C$ potentially falls under $B$. We just get that knowledge from a universally quantified premise which we remember and bring into the processing chamber, namely that

(7)  Everything that is with strict possibility not an $X$ is with strict possibility also an $X$.

So when the mind brings that premise into the processing changer and inspects it, the result is that it find

حييند أن $C$ يدخل بالقوة $B$. فإن هذا الضرب إذن إما هو بالعكس that $C$ is potentially included under $B$. So therefore one proves this mood 187.5 just by using the kind of conversion

الذي يخص الممكن، وهو أن تكون الحدود جمالية والجهة جمالية، لكن قد which is specific to [narrow] possibility, namely that the terms and the modality stay as they were, but

غّرت الكيفية، فنقل الإجحاب إلى السلب أو نقل السلب إلى الإجحاب، فإذا the quality is changed, so that affirmative changes to negative or negative changes to the affirmative. When

نقلنا ذلك بالصغرى صارت بالإمكان كل $C$ بـ $B$ وبالإمكان كل $B$ أ، فالإمكان
we make that change to the minor premise, the syllogism becomes

\[
\begin{align*}
\text{With possibility, every } C & \text{ is a } B; \\
\text{and with possibility, every } B & \text{ is an } A; \\
\text{so with possibility, every } C & \text{ is an } A. \\
\end{align*}
\]

(8)

So this syllogism uses two conversions. Other similar

القياس سائر ما بعده.

syllogisms will follow.

والضرب الرابع: من سالبتين كليتين ممكنتين، ينتج ممكنة سالبة، يتيتن

[4.1.11] The fourth mood has two negative universally quantified possibility premises, and its conclusion is a negative possibility proposition. It is proved

by converting the minor premise to an affirmative proposition.

وذلك لله أن تتركب أنت ضروبا أربعة: من جزئية صغيرة، وكليّة كبيرة،

There are four similar moods that are left to you. They have an existentially quantified minor premise and a universally quantified major premise. These two premises can be

سالبتين أو موجبتين، وموجبة وسالبة، وسالبة وموجبة.

both negative, or both affirmative, or affirmative and negative, or negative and affirmative.

لكن بعض الناس

[4.1.12] But a certain person

قد قال: إن ما تبني من هذا الباب بالعكس فهو مزيف لا يستعمل، أعني has said:
The fact is that proofs of this type that proceed by conversion are fictitious — nobody ever uses them. I mean when these negatives are about small numbers of things (???). And that is because what is used in practice is propositions about what holds in most cases. When you convert these, they become propositions about what happens in few cases, and these propositions lie outside normal usage.

He was wrong about this.

When the aim is to reach what is true, people do tend to use propositions about ‘most cases’; but when it is
It could be that the sentence “No C is a D, with possibility.” is a possibility sentence about ‘few’, so when it is inverted it becomes a sentence about ‘most’. But this reduction is meaningless, because if it is about ‘few’ and it is inverted so that it becomes about ‘most’, it doesn’t entail the required conclusion, because its conclusion needs to be converted so as to be about ‘few’, so it comes back to the thing complained of by the person who had doubts about conclusions about ‘few’.

It was also said that there is nothing to prevent this inversion being useful for bringing us back to a syllogism which provides a conclusion about ‘most’, in which case it won’t be inverted [again].
soundness of premise-pairs that don’t entail, when the major premise is existentially quantified. This was to prevent anyone thinking that just as changing the minor premise to negative doesn’t damage entailment in possibility, so perhaps making the major premise to existentially quantified need not prevent entailment. Thus it is said that when we say:

\begin{align*}
\text{(11)} \\
&\text{Every human can be white;} \\
&\text{and some white thing can be an animal.}
\end{align*}

\begin{align*}
\text{(12)} \\
&\text{Every human can be white;} \\
&\text{and some white thing can be a coat.}
\end{align*}

What is true here is that no human a coat. We must examine these terms. We have no quarrel with the minor premises.

Transcription checked 7 Sep 12. Readings checked 7 Oct 12.
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 وأما الكبرياء فكلاهم باعتبار الطبيعة ضروريان، فإن البعض الموصوف
But as for the two major premises, each of them expresses a necessary fact.  189.1
The ‘some’ which fits the description

‘أي ضروري هو بالضرورة حيوان، والبعض الآخر هو بالضرورة ليس ثوبا.’
‘white’ is necessarily an animal, and the other ‘some’ is necessarily not a coat.

فلبست الكبرى ممكنة حقية؛ بل ضروري، آلهم إلا أن يعني بالممكن
So the major premise is not strict-possible but necessary — unless of course
‘possible’ is meant

لا الحقيقي، بل العالم فيكون غير ما أَكَن فيه، أو يعني ليست ضروري من جهة
in the broad sense and not the strict one, but that is not what we intended
by it. Or unless what is meant is ‘something not necessarily

البيض. وفي ذلك ما قيل.
white’, but something has already been said about that.  189.5

أو يعني الممكنة تعني السور، فالنتيجة تكون
[4.1.14] Or we mean the possibility in the quantifier sense, in which case
the same will hold of the conclusion.

أيضا كذلك. ولكن لقول أن يقول حينئذ: إن الكليات يضا لا 1
كان الإمكân

But in that case someone might well say: In fact universally quantified
premises ??? also don’t entail if the possibility

أيضا ما أخذنا بحسب السور، فإننا نقول: يمكن أن يكون كل إنسان أبيض;
is also taken in the quantifier sense. But we have

It’s possible that every human is white;
and it’s possible that every white thing is a horse.

(13) And also

ويمكن أن يكون كل أبيض فرسا. وأيضا يمكن أن يكون كل إنسان أبيض;

It’s possible that every human is white;
and it’s possible that every white thing is an animal.

(14)
The conclusion in the first case is

(15) With necessity, no human is a horse.

{NB He says not ‘the conclusion is (would be)’ but ‘it entails’. This is highly misleading and is the same unfortunate terminology that had Alexander denounced by Barnes etc.}

And in the second case it is

(16) Every human is an animal, with necessity.

This proof doesn’t help you

أَنَّ الْحَيَاتَ جَهَاتَ الْخَرَصَةُ؛ إِذْ كَانَ هَذَا يَبِنُ تَأْلِيفُ الْقِيَاسِ مَنَا لَا يَحْبُ أن

to make explicit what is wrong with these syllogisms, but it does help you to make explicit what is wrong with believing

أَنَّ الْحَيَاتَ جَهَاتَ الْخَرَصَةُ؛ إِذْ كَانَ هَذَا يَبِنُ تَأْلِيفُ الْقِيَاسِ مَنَا لَا يَحْبُ أن

that the modes are modes of the quantifier. This is because it prevents us composing the syllogism from premises that are not necessarily

عَمْتَعْنَ؛ لَأَنَّهُ يَوْجِبُ الْإِنْتِفَاقُ مِنْ مُقْدِمَتَيْنِ مِرْتَةٍ إِبْحَابٍ وَمِرْتَةٍ بَسْلَبٍ. وَذَلِكَ

impossible, since sometimes the conclusion from two premises [of the given form] is an affirmation, and sometimes it is a denial. And that

أَحَدُ أَسْبَابِ مَا تَصِيرُ لِهِ القُرْنِيَّةِ غَيْرِ قِيَاسٍ. 189.15

is a reason why a premise-pair [of this form] doesn’t form a syllogism.

فِيِّنَ أَنَّهُ لَا إِنْتِفَاقُ فِي أَمَرِ المَتَلَقِّي وَالْمَكْنُونِ إِلَى الْسُّورِ، وَلَا فِي هَذَا الْمَوْضُعِ

So it is clear that as far as the absolute and the possible are concerned, there is no reason to consider them on the quantifier, though otherwise this topic

يَحْبُ أَنْ يَلْتَفَّ إِلَيْهِ. 189.16

does require reference to it.

Transcription checked 7 Sep 12. Readings checked 7 Oct 12.