Handout
for 'Necessary and permanent in Ibn Sīnā'

Wilfrid Hodges

St Andrews, November 2012

1. Alexander of Aphrodisias, Commentary on Prior Analytics, Wallies CAG 2.1 pp. 156f. (trans. from Fortenbaugh et al., *Theophrastus of Eresus: Sources for his Life, Writings, Thought and Influence* Part One, Brill, Leiden 1992, p. 187).

> For according to [Aristotle] the necessary is predicated also of the existent: for what is (belonging) to something, is necessarily (belonging) to it, while it is (belonging). Theophrastus, at any rate, in the first book of his *Prior Analytics*, speaking about the meanings of "necessary", writes this: "Third the existent: for when it actually is (belonging), it cannot then not be (belonging)".

2. Alexander of Aphrodisias, Commentary on Prior Analytics, Wallies CAG 2.1 p. 140 ll. 14–18 (trans. from Fortenbaugh et al. p. 189).

> By saying, "not, however, while animal belongs to no white thing, so that in these conditions the conclusion will be necessary, but not absolutely necessary", by this addition he (Aristotle) made clear that in mixed syllogisms, when he says that the conclusion is necessary, he means absolute necessity and not qualified. ... At the same time he has made clear by the addition that he too knows the classification of necessity which his colleagues have made, which he explained earlier also in the *De Interpretatione*, when, in connection with the so-called contradiction about the future, he says about statements about individuals, "That what is, is, when it is, and what is not, is not, when it is not, is necessary." For the hypothetically necessary is like this.

3. Themistius reported in Hebrew by Todros Todrosi, in Shalom Rosenberg and Charles Manekin, 'Themistius on Modal Logic: Excerpts from a commentary on the *prior analytics* attributed to Themistius', *Jerusalem Studies in Arabic and Islam* 11 (1988) 83–103.

Theophrastus says that the necessary is said of three things: the first, and the most befitting the term [necessary], is that which exists perpetually all the time, as in our saying, "The heavens are ungenerated". … The second is that which does not exist perpetually, but rather exists of necessity as long as the subject exists, like the existence of soul in man and heat in fire. The third is the existent thing when it exists, of which it is said that it exists of necessity, like the sitting of Reuven when he sits, or the walking of that which walks, when it walks.

It follows that the first should be called "necessary" always at every time, the second, "necessary" as long as the subject endures. and the third, "necessary" whenever it exists. …

The *meẕu'i* (assertoric? absolute? condition-free?) is said in the same ways in which the necessary is said, for we say that movement belongs to the sun, and cold [belongs] to snow, and speech [belongs] to a speaker when he speaks. …

Aristotle … says that the difference between the necessary and the *meẕu'i* sentences is the addition of the word "necessarily".

4. Ibn Buṭlān (trans. from Fortenbaugh et al. p. 153).

[The commentators] agree that this section would have never been understood from (the reading of) a book had not Aristotle's two disciples, Theophrastus and Eudemus, heard it (explained) from him.

5. Ibn Sīnā, *Qiyās* book i.4, 32.7–15 (my translation).

We can use the expression 'necessity' for permanence in subjects. An example is when we say

(1)   Allah the Exalted is alive, with necessity.

I.e. permanently, he never ceased and he never will cease. And we say

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

not [to express] that, like Allah, he never ceased and never will cease, but for as long as the essence of the thing which fits the description 'human'

continues to be satisfied, i.e. so long as it continues to fit the description given as the subject term. And we say

(3)   Everything that moves changes, with necessity.

not [to express] that it is permanent [in the sense that] it didn't cease and won't cease, nor that it is permanent for as long as the essence of the thing which is described as moving continues to be satisfied; but while it continues to move. Though it can happen that [the time during which] its essence continues to be satisfied is the same as [the time during which] it fits the [subject] description; for example when we say 'Every human', the [time during which] his essence continues to be satisfied is the time during which he continues to fit the description 'human'.

6. Ibn Sīnā, *Qiyās* book i.5, 41.5–13 (my translation).

If [the proposition] is restricted to the three-way division (*taṯlīṯ*), the contradiction is easy [to find]. (I) When the sentence is

(4)   Every B is an A (meaning simply that every B is an A permanently).

then it has [the contradictory negation]

(5)   Not every B is an A.

I mean permanently. (II) When the sentence is

(6)   Every B is an A (meaning simply that every B is an A so long as the B fits the description B).

then it has the contradictory negation

(7)   Not every B is an A (i.e. so long as it continues to fit the description B).

(III) When the sentence is

(8)   Every B is an A (i.e. while it continues to fit the description A).

then it has the contradictory negation

(9)   Not every B is an A (i.e. so long as it continues to fit the description A).

But the absolute proposition itself doesn't have to have either of the latter two specific meanings (6), (8), and it's unhelpful that the definitions given in the First Teaching always interpret the content in [one of these ways]. One ought to look for an account of all this that covers the broad range. Perhaps it is that [the subject] is said to be an A so long as some affirmative condition holds.

7. Ibn Sīnā, *Qiyās* 127.14–129.4 (on the descriptional syllogism).

The second mood is the same except that it is the major premise that is absolute, and it entails an absolute conclusion. An example is

(10)   Every C is a B, with necessity, and
everything that is a B is an A, with absoluteness,
so every C is an A, with absoluteness.

This is because it is given that everything that is a B is with absoluteness an A, regardless of whether it is a B with or without necessity. So every C is a B with absoluteness. It is not correct that the meaning of the absolute premise is that everything that is a B is an A with absoluteness but only for as long as it is a B, not permanently. That is because not everything that is a B fails to be a B permanently. In fact we have said [in the minor premise] that something that is a B, namely what is a C, is a B with necessity and permanently. In the light of this it is not correct for us to say

(11)   Everything that fits the description B is an A at some time, namely the time during which it fits the description B.

In fact [given the minor premise,] some of what fits the description B fits that description permanently. It can be that this [major] premise is true absolutely, with the kind of absoluteness that allows the premise to be either a necessary truth or not one. Thus when we say

(12)   Everything that moves changes.

4

and it is not correct for us to say

(13)   [Everything that moves] changes with necessity,
        not while it continues to move, nor permanently,
        but for the non-permanent amount of time during
        which it does move.

This is because some moving things have a permanently moving essence and some don't. Likewise some moving things change with necessity, and some moving things change but not with necessity. Nor is it correct for us to say

(14)   Everything that moves changes, with necessity.

nor

(15)   Everything that moves changes, without necessity.

Instead we should say that the premise holds absolutely; this is an example of general-absolute. But then if this premise is true when read as a general-absolute, so that every B is an A with this kind of absoluteness, the conclusion follows, but also it is necessary-absolute. This is because this conclusion will hold as the same kind of absolute as the major premise, i.e. general-absolute, so every C will be an A so long as it continues to fit the description B. But [by the minor premise] it permanently fits the description B, so it is permanently an A. An example of this is:

(16)   Snow is white, with necessity,
        and everything white is coloured with a colour
        which opens out [for radiation] to the eye with the
        absoluteness that we said,
        so all snow is coloured with a colour that opens out
        [for radiation] to the eye permanently.

Anyone who is surprised at getting a necessity conclusion from an absolute minor and a necessity major premise should take a close look at this. He will find a necessity proposition derived from an absolute major premise when the minor premise is a necessity proposition.

Remark: There are also valid descriptional syllogisms corresponding to the other three moods of the first figure. In my Cambridge talk in November 2011 I said that in Qiyās *Ibn Sīnā mentions these other three syllogisms. Looking again I think optimism overrode accuracy; he doesn't mention these other forms. But* Qiyās *does contain evidence of other use of descriptionals, just as*

part of the available machinery. To my mind this increases the likelihood that in his treatment of the descriptional syllogism he is tidying up something in his sources, not striking out on his own.

8. Ibn Sīnā, *Burhān*, Afifi 120.15–124.16 (in part; my translation).

> Let us list the points of view from which a thing can be called 'necessary'; we made a reference to this earlier. We say: The description 'necessary' can be applied to plain and unconditioned reality, meaning that the thing couldn't ever fail to be the case at any time at all; or to plain unreality, meaning that the thing couldn't ever be be the case at any time at all. It can also be applied when a certain predication is said to hold or (in the negative case) not to hold; there are five ways of applying 'necessary' in this context.
>
> (i) It is said to be 'necessary' when [the assertion is understood to be that] something is, or is not, the case permanently, and it always was so and always will be. Examples are
>
> (17)   The creator is one.
>
> and
>
> (18)   The creator is not a body.
>
> (ii) It is said to be 'necessary' when [the assertion is understood to be that the predicate] holds, or fails to hold, not permanently in the absolute sense, but permanently in the sense 'so long as the essence of the subject is satisfied'. An example is
>
> (19)   Every human is an animal, with necessity.
>
> meaning that each human, i.e. each thing fitting the description 'human' — namely the subject individual — fits the description 'animal', not permanently but so long as he continues to exist and has his essence satisfied. In fact every human goes out of existence, and so he doesn't fit the description 'animal' permanently.
>
> (iii) It is said to be 'necessary' when [the assertion is understood to be that the predicate holds, or fails to hold,] not for as long as the essence of the subject individual is satisfied, but rather for as long as its essence continues to carry the description expressed by the meaning of the subject term. An example is

6

(20)	Every white thing with necessity has a colour which opens out [for radiation] to the eye.

[The meaning here is] not: permanently as something that always was and always will be so. Nor is it: for as long as the essence of the individual fitting the description 'white' continues to be satisfied; in fact some things that fit the description 'white' can continue to exist but cease to satisfy this description, and then what follows from this description, namely having a colour which opens out [for radiation] to the eye, can cease to be true of them. But rather [it means]: for so long as the essence carries the description of being coloured white. Then of course it does fit the description of having a colour which opens out [for radiation] to the eye.

(iv) Or the necessity in it is under the condition 'so long as the predicate continues to be satisfied'. [The proposition with] this condition is true however the world is, and with every kind of necessity that has been mentioned so far or will be mentioned later. In fact everything that is either necessarily true or not can't fail to be true under the condition 'so long as it is true'. But this subdivision is just marked off by the fact that there is no necessity at all for its predicate to hold without the this condition. Thus with the sentence

(21)	Every human is sitting necessarily for so long as he remains sitting.

we wouldn't say 'sitting necessarily' and then stop. This kind of necessity [applies even when] the matter is possible for every subject individual and every time. And in this it differs from the other subdivisions.

(v) Or it has necessity adjoined to a temporal condition where the time is specifically not that of the condition that the subject or the predicate is satisfied. Thus we say:

(22)	The moon is eclipsed necessarily.

i.e. at a certain time, and

(23)	Some trees shed their leaves [in the autumn] with necessity and come into leaf in the spring with necessity.

Some people reckon that this class [of propositions] is the same as the previous one, because the moon is eclipsed with necessity for so long as it continues to be eclipsed. This is not so. The present class is different, even though the condition given the previous class yields a true proposition in this case just as it does in all the other preceding cases. The difference is that in the present class a time is given which is necessary in the sense that something can't fail to be the case in it. A proposition in the previous class doesn't have a time which is necessary in this sense; but rather its necessity consists in the fact that the condition for a thing to hold is the thing itself, and at any time whatever the thing itself is a [sufficient] condition for it to hold. A proposition in the present class asserts that something has to hold at a certain time, not because it holds under the condition that it holds, but absolutely in the sense that X has to hold during time t. Also the moon [having to] be eclipsed when it is eclipsed is not like Zayd [having to] stand when he does stand. There is no need for us to spend more time on the matter. We have said enough to make the point clear.

Propositions in the fourth class play no essential role in deriving necessary demonstrative conclusions.

. . .

When we said in *Qiyās*

(24)   Every C is a B with necessity.

we meant that everything that fits the description C, regardless of whether it fits the description C permanently and necessarily, or at a particular time and as a non-necessary fact, that thing always and permanently fits the description B, even at times when it fails to fit the description C. But in this book [*Burhān*], when we have said (24) we have meant that everything fitting the description C with necessity fits the description B. No — the meaning is broader than this, namely that everything that fits the description C does, for so long as it continues to fit the description C, fit the description B. If we don't have 'for so long as it continues to have its essence satisfied', that is because in *Burhān* the predicates of modally necessary propositions in *Burhān* are genera and differentiae and essential adherents, and these follow with necessity in the above way.

. . .

8

[Aristotle] said about demonstrative premises that they have to be universally quantified. So let us explain what it is for a demonstrative premise to be about 'every ...'. We say:

The book *Qiyās* considers sentences about 'every ...' only with the meaning that there is nothing fitting the subject description, say C, which doesn't also have the predicate description, say B, true of it. This is when the universally quantified sentence is affirmative; when the sentence is negative we have 'false of it' [rather than 'true of it']. The meaning doesn't contain a further condition to the effect that the predicate holds or fails to hold at every time. Rather it belongs to the absolutes — so it would be possible that the predicate holds of each of the things fitting the subject description at some time and fails to hold of it at another time.

But in *Burhān* a sentence about 'every ...' means that each thing fitting the subject description has the predicate true of it (or [in the negative case,] false of it) at every time in which it does fit the subject description — not at every time absolutely. This is because these premises are universally quantified necessity propositions, and a necessity proposition can have its universality denied in either of two ways. The first is to say that there is some subject individual for which the content expressed by the predicate doesn't hold. Thus

(25)   Every human is literate.

is false because not every human is literate. The second is to say that among the things fitting the subject description, some fail to fit the predicate description at some time, like a young person who can't truly be described as knowing anything. These are the two ways of denying a sentence about 'every ...'.

Suppose someone were to say:

(26)   In the book *Qiyās*, when you considered those propositions which are necessary in the sense that [the predicate holds] so long as the subject [individual] continues to fit the [subject] description, you took them to be absolute propositions. In that book there were universally quantified propositions that are [called] absolute although their universality is not qualified by any gap in the time at which they apply.

The answer is that we took these propositions to be absolute by removing from them the modality of necessity, whereas in *Burhān* we confirmed that what they say about the predicate does express a modality of necessity. When we were counting them as absolute, we were saying not that propositions that are necessary in the sense 'so long as the subject continues to fit the description' are absolute when this necessity is made a condition in act (*bil-fiᶜl*), but rather that they are absolute when they allow the possibility ('*imkān*) of making this necessity a condition. This is not the same as the possibility ('*imkān*) that the proposition really is a necessity proposition. The effect is rather that if a condition of necessity had been made in it, that modality would be the only condition that could have been made. The proposition is absolute when it lacks these modal conditions. There is [not] a big difference between the possibility ('*imkān*) of making a thing a condition, and its actually (*bil-fiᶜl*) being made a condition. Thus in *Burhān* when necessity is made a condition, this [does not] conflict with the the content being exempted from holding at such-and-such a time. In *Qiyās* where necessity is not made a condition, but rather the proposition is absolute with no condition [of necessity] in act (*bil-fiᶜl*), the truth of the proposition at some time doesn't conflict with the content being exempted from holding at a time, provided no condition has been made that the predicate is permanently true of the subject. If in *Qiyās* a condition of necessity had been made, taking the form 'with necessity for so long as it continues to fit the description given by the subject term', and then the content was [in fact] false at some time when the individual did fit this description, then the sentence would be in contradiction [to the facts].

Let us consider it from another aspect. We say: In *Burhān* one considers propositions where the content is exempted from holding at some time, and also ones where the content [is said to] hold permanently throughout some time. These two cases were not what was considered in *Qiyās*. Thus in *Qiyās* one just considered the relationship between the two terms of the goal proposition absolutely, [i.e. with no conditions attached]. The terms [could be] 'essence of the thing which is white' and 'having a colour which opens out [for radiation] to the eye', and then one considers the relation of the predicate to the essence of the subject individual without further ado; but in *Burhān* that relation is considered under a condition on the subject individual, namely 'so long as the essence of the subject individual continues to fit the description that it is white'. In *Qiyās* this is not made a condition; the proposition is just absolute because [the predicate is asserted to] hold of the essence of the subject individual, not permanently but at times when the individual fits

10

such-and-such a description. [For example] the assertion is not that everything fitting the description 'white' has a colour that opens out [for radiation] to the eye for as long as its essence is satisfied, but rather for as long as it fits the description 'white'. So 'possessing a colour that opens out [for radiation] to the eye' is predicated of the essence of what fits the description 'white', not at all times but at some time. This is [how the proposition is understood] in *Burhān* too. In *Burhān* a proposition can be [understood to] rule out that some of the subject is free of the predicate at some time, if we take the subject under a [suitable] condition which doesn't at the same time assert necessity; and in *Qiyās* it is the same. Such premises do occur in *Burhān* with the modality of necessity suppressed [in the expression] but present in the mind. They really are absolute when modal necessity is suppressed [in the expression] and not present in the mind either, and the proposition is regarded as purely factual. [*Remark: There are several indications that the text in the middle of this paragraph is untrustworthy.*]

So this difficult-to-describe problem has been solved.

9. Ibn Sīnā, *Najā* 29.8f, Daneshpazuh edition (my translation).

There are three modes: necessary, which signifies holding permanently; impossible, which signifies permanently failing to hold; and contingent, which signifies that neither the holding nor the failing to hold is permanent.

10. Ibn Sīnā, *Najā* 43.3ff, Daneshpazuh edition (my translation).

. . . a thing's being permanently false or true of an individual doesn't confer necessity, though it does confer a permanence that the nature of the individual doesn't entitle it to. Thus it's possible that some humans have it denied or affirmed of them that they are literate for all the time while their essence is satisfied, but this is something that happens to be the case, it is not by entitlement. But universals are different; in fact if a statement that something permanently holds or fails to hold of a universal is not backed up by an entitlement, there is no good reason to believe the truth of the statement — or rather, such a statement won't be true at all.

11. Ibn Sīnā, *Išārāt* Indication iv.2 and iv.4 (my translation).

> An example which is permanent but not necessary is like where something happens to be affirmable or deniable of some individual, and this remains with him for so long as he exists, though it didn't have to. For instance it can be true of some people that they are white-skinned so long as their essence is satisfied, even though that is not a necessary [fact about them].
>
> . . .
>
> Know that the permanent is not the necessary. In fact 'being a writer' can be said not to hold of an individual at any time when he exists, let alone at times when he doesn't exist; but this denial is not a necessity proposition.

Remark: Compared with Ibn Sīnā's other writings, Išārāt *was written with extraordinary lack of professionalism, and one could write pages on the confusions and ambiguities in just the two paragraphs above. Nevertheless they clearly contain recipes for constructing both permanent truths that are not necessary truths, and permanence propositions that are not necessity propositions. The first gives permanence 'so long as the individual exists'. Using this format, Ibn Sīnā can't get an affirmative sentence that is permanently true of a temporary individual, because he counts affirmations as false when the subject individual doesn't exist. The second example overcomes this barrier by using a negative sentence.*

12. Ibn Rušd, *Mas'ala* i.3 on the Syllogism, p. 122 (my translation).

> [These views of Ibn Sīnā are] all a mix-up and a confusion. The universally quantified necessity premises don't need these conditions. In the proposition 'The human is an animal with necessity' the predication here is permanent and never did or will cease. This is regardless of whether or not each individual person exists with necessity and permanently. In fact universals don't go in and out of existence — I am referring to the ones out of which the universally quantified proposition is compounded, as when we say 'The human is an animal.' The condition which [Ibn Sīnā] mentioned is needed only in the singular proposition. This is what someone had in mind when he thought that necessary knowledge about things that go in and out of existence is not available. And likewise, as far as necessary predication is concerned there is no difference between our statement 'The human is an animal with necessity' and our statement 'The human is white with necessity'. Here also there is no

need for the condition that [Ibn Sīnā] mentioned, except when the proposition is taken as singular. And as for what he said about necessary temporal statements, it is true, but it involves only one species of necessary proposition, and its connections to predication and conversion are the same as those of necessary propositions [in general]. It's meaningless for him to say that those propositions are what Alexander intended by 'absolute', since Alexander intended by 'absolute' a third kind [of proposition] distinct from the necessary and the possible. I reckon that the man just imagined, when he was thinking about these distinctions above — people defined 'necessary' as what never did or will cease, and they said that the absolute is what, if the subject exists, is in the subject for as long as its subject continues to exist, either through itself if it is not in a subject, or in the subject if its existence is in a subject; and they said that the name 'necessity' is applied homonymously to this meaning and also to the absolute — so the man thought that what had been said in order to distinguish different forms of absolute reality had been said in order to distinguish different universally quantified necessity propositions. And he counted the first definition of necessary, namely as what is permanent, as being about the individual, where [in fact] this definition embraces species of necessary that hold throughout time, regardless of whether they are necessary for the individual or from the point of view of what is universal. Defining a nature as necessary or absolute or possible is not the same as defining the universally quantified necessity proposition, nor does it give a definition of the universally quantified absoluteness proposition. The same applies to the universally quantified possibility proposition. So I reckon this is how this man fell into error. But Allah knows the truth of it.

13