

Avicenna's theory of compound meanings: language or metaphysics?

Wilfrid Hodges

Representation and Reality, Workshop 14
Copenhagen 2016

wilfridhodges.co.uk/arabic55.pdf

Superscripts refer to the handout, arabic55h.pdf.



Why am I, a logician and not at all a metaphysician,
interested?

First, Avicenna himself makes crossreferences and other
links from this material into logic.

The metaphysical commentators never follow up these
links. (Metaphysicians don't read logic!)

Ahmad Hasnawi has already called attention to one of
these links, but there is more to do.



1. Avicenna's indifference of essence

Several formulations along the following lines.^{D,H}

Consider the universal horse.

- (1) Horse as horse is neither universal nor particular.
- (2) Horse becomes universal or particular by having
universality or particularity attached to it, or
happening to it.

Found mainly in metaphysical passages in *Šifā'*.

Studied by Marmura, De Libera, Menn.



Second, research in history of metaphysics tends to be
closely based on comparison of textual formulations.

This can create a presumption that the later authors are
discussing the same problems as the earlier ones.

But in logic, where we have an Archimedes fixed point in
the facts of logic itself,

we know that Avicenna often uses earlier Peripatetic
formulations to answer new and non-Peripatetic questions.

Does the same apply here?

I think yes. The questions are largely about the nature of
logic and the role of semantics in it.



Notions to account for in indifference of essence:

- ▶ ‘as’ (*min ḥaythu, min jihati, mā*)
- ▶ ‘is attached to’ (*yalḥaqu, yata^callaqu, yaqtarinu*)
- ▶ ‘happens to’ (*ya^criḍu, ^cāriḍ*)
- ▶ ‘becomes’ (*yaṣīru*)
- ▶ ‘universal’ (*kullī, ^cāmm*)
- ▶ ‘particular’ (*juz’ī, khāṣṣ*)

Heavy load of technical terms is a problem from the start.

The main objects are meanings (*ma^cānī*), and particularly descriptive meanings which separate things into those which satisfy them (*yūjadu lahu*) and those which don’t. For example meanings of natural kinds: [HUMAN], [HORSE], [TREE], [STONE].

This is Jackendoff’s notation. Avicenna himself had devices for naming meanings, for example

horseness = meaning of horse = [HORSE].

Each descriptive meaning has an essence (*dāt*) or nature (*ṭabiy^ca*) which determines what counts as satisfying it. Avicenna switches freely between meanings and essences.

2. The architecture of meanings

Most of the notions listed above come from Avicenna’s architectural theory of compounds.

The analogy with architecture is Avicenna’s own.^C (Today we would probably say chemistry.)

This theory is clearly intended for multiple applications. So anything said in it may have very different interpretations in different areas of philosophy.

Compound (*murakkab*) meanings are formed by **attaching** one meaning to another.

The two meanings then **become** parts (*juz’*) of the compound meaning, or internal (*dākil*) to it.

(Alternatively one meaning **becomes** the compound.)

A meaning that is not compound is simple (*basīṭ*).

Parts of parts of a meaning are parts of the meaning.

For *M* to be attached to *N*, *M* (and perhaps also *N*) must be prepared (*musta^cadd*) for the attachment.^C

There are two main applications of the notion of attachment:
attachment in the world (*fī l-'a^cyāni*) and attachment in the mind (*fī l-dhihni*).

M is **attached to N in the world** if some individual in the world satisfies N and comes to satisfy M too.^B

For example an instance of attaching [SLEEPS] to [HORSE] in the world is that a particular horse falls asleep. This instance is typical in that [HORSE] is a substance and [SLEEPS] is an accident.

(Real) definition is an example of restrictive compounds. A suitable first meaning M_0 (the genus) is taken, and other meanings M_1, \dots, M_n are successively attached to it as restrictions (the differentiae).

The meanings M_0, \dots, M_n and their parts are described as internal (*dākhil*) to the resulting compound meaning N . The definition is a verbal expression of these internal parts.

M is **attached to N in the mind** by forming a compound meaning $M + N$ whose essence is determined in a particular way by the essences of M and N .^B

The primary case, restrictive attachment, is that the things that count as satisfying $M + N$ are the things that satisfy both M and N . In this case M forms a restriction (*taqyīd*) of N in the compound.^E

Also in this and other cases we can regard M as forming, within $M + N$, a condition (*šarṭ*) on N .

A favourite phrase of Avicenna's:
'Take care of the conditions'.

3. The three (or two?) modes of existence

Avicenna's predecessor Yaḥyā b. 'Adī (I suspect the person Avicenna refers to as the Sheikh of the Christians) described three senses in which meanings exist:^A

- (1) Natural or physical existence, where the meanings exist in matter and together with accidents.
- (2) Logical existence as a form in the soul.
- (3) Essential or metaphysical existence, which is existence in accordance with the definition of the meaning.

Overtly ontological. (2) allows a meaning to 'exist' even if it is not satisfied in the world, and without committing us to any view that meanings are 'in the world'.

Avicenna rejigs Yaḥyā's three senses.
 He counts only two 'modes of existence',
 namely (1) (natural) and (2) (logical).
 (3) is just the meaning itself, not in any mode.

We will review in turn what Avicenna does with (3) and (2)
 in relation to logic.
 (No time for (1) today.)

By (i), the first clause of indifference of essence, namely

[HORSE] as [HORSE] is not [UNIVERSAL].

says correctly that [UNIVERSAL] is not internal to
 [HORSE].^H

This is exactly how Avicenna himself explains it.
 There is no paradox (*pace* McGinnis)—except why Avicenna
 adopts this crazy terminology with 'as'.
 Presumably he does it in order to have a vocabulary for
 discussing ideas of Aristotle and al-Fārābī.

4. A meaning as itself (the 'metaphysical meaning')

Avicenna splits 'true by essence' into two cases:

(i) N is *internal* to M . He writes this as

M as M is an N .

(ii) N is an *essential accident* of M , i.e. N is not internal but
 is a necessary or logical consequence of the definition of M .
 (Having angles 180° is an essential accident of triangle.)

The sciences establish essential accidents,
 not internal properties.
 Thus Avicenna wrecks the idea of *per se* predication.

👉 Link to logic

Avicenna in *Ilāhiyyāt* distinguishes between two sentences:

(α) M as M is not an N .

(β) M is not, as M , an N .

He says we should use (β) and not (α),
 and refers us back to 'logic' for further explanation.^I

Comparison of texts seems to show he must be referring
 back to *Qiyās* iii.2, specifically 147.15f.

This passage is very difficult.

But it comes within ten pages of the most insightful known
 piece of logical calculation between Aristotle and Leibniz,
 so we should take it seriously.

Contrary to what you would expect, Avicenna in *Qiyās* iii.2 makes no contrast of meaning between (α) and (β).

His distinctions between them are of a different kind.^G

He observes that ‘as M ’ is in the subject in (α) and in the predicate in (β). Averroes (supported by De Libera) comments that of course it has to be in the predicate.

Avicenna says you should put it in the predicate, but you *can* put it in the subject.

From Avicenna’s text and parallel discussions elsewhere in his logic, I think there are two issues here.

For the first issue I use an analogous modern phrase: ‘the early Wittgenstein’. Compare:

(α') The early Wittgenstein didn’t use language games.

(β') Wittgenstein didn’t, in his early years, use language games.

The two sentences say the same thing.

But (α') invokes an artificial entity, ‘the early Wittgenstein’; to explain what (α') means, we should translate it into (β').

Likewise there is no such entity as ‘ M as M ’, but we can still use it as a logical construction.

The second issue is that ‘ M as M ’, using any of the Arabic phrases that Avicenna has for ‘as’, does carry some meaning in everyday Arabic.

This allows Avicenna to compare ‘ M as M is an N ’ with two other non-technical notions:

Every M is an N all the time it’s an M .

Every M is an N because it’s an M .

The first of these is the ‘*lāzim*’ form in Avicenna’s two-dimensional temporal logic, so its logical properties are known and *prima facie* can be carried over to the ‘as’ forms.

Curiously none of these readings of ‘as’ are the one that Walter Burley claimed he got from Avicenna for *inquantum*.

5. The logical meaning

Here Avicenna leaves Yaḥyā way behind. Yaḥyā’s logical meanings were just mental representations of concepts.

For Avicenna, taking M as logical meaning goes with *putting M into compound phrases*, or more precisely, into the compound meanings associated with phrases.

A meaning M is in this mode of existence if M is prepared for being predicate, subject, quantifier etc. in a sentence.^B

These are features (*aḥwāl*) for meanings in second mode. Avicenna expands this list of *aḥwāl* in *Ta^cliqāt*; it’s clearly a list of concepts used in logic.

👉 Link to logic

Avicenna says that the subject of logic is meanings which have (or are prepared for) the characteristic features of being parts of logical sentences.^C Given Avicenna's notion of subject of a science, this implies that the main theorems of logic have the form 'For all meanings A, B, C etc., ...'.

Typical example (which he himself points out in his logic):

For all meanings A, B, C , if we assume
'Every A is a B ' and 'Every B is a C ',
then we are committed to 'Every A is a C '.

So his definition of the subject of logic contains the claim that logic is primarily about formal inferences.
(This has been very widely overlooked.)

👉 Link to logic

We return to the second clause of the indifference of essence:

[HORSE] becomes universal through having
universality attached to it.

This has an explanation in terms of natural meanings and satisfaction by real-world objects, as Avicenna mentions. But it also has an immediate sense in terms of logical meanings.

Namely, we attach universality to [HORSE] in a sentence by expressing universality as [EVERY],
and then the attachment yields [EVERY HORSE].

Likewise [SOME HORSE], [THIS HORSE].

In *ʿIbāra* Avicenna uses a version of the indifference of essence to claim that [HORSE] is distinct from [EVERY HORSE] and [THIS HORSE].

He is concerned with how one proves such a claim.^{D,F}

If [HORSE] = [EVERY HORSE], then Tom Pearce's grey mare satisfies [EVERY HORSE] and hence is (an) every horse, which is false.

If [HORSE] = [THIS HORSE], then every horse is this horse, which again is false.

This issue is still around in modern formal semantics.

We left a lot of loose ends.

E.g. what does Avicenna mean by saying that a meaning is 'prepared for' becoming a part of a compound meaning?

The notion is obscure, but not for lack of suggestive comments in Avicenna's text.

Almost certainly we have to fit it into a general theory of 'becoming', including substantial change.

Avicenna uses almost identical language in talking about the soul being 'prepared' to be 'attached' to the Agent Intellect, and thereby 'becoming' independent of bodies.