

Syntax and meaning

in al-Sīrāfī and Ibn Sīnā

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Project between:

- ▶ Manuela E. B. Giolfo, University of Genoa, specialist in classical Arabic linguistics with a particular interest in the semantic underpinning of classical theories of Arabic syntax.
- ▶ Wilfrid Hodges, retired and living on Dartmoor, mathematical logician with an interest in formal semantics of natural languages, and currently working on the logic of Ibn Sīnā.



The project will compare the views of

- ▶ Abū Saʿīd al-Sīrāfī (died 979), the first major commentator on Sībawayhi's founding 'Book' (*Kitāb*) on Arabic linguistics, and
- ▶ Abū ʿĀlī bin Sīnā (980–1037), known as Avicenna, an independent-minded commentator on Aristotle, who wrote widely in logic,

on some issues in the overlap between linguistics and logic.

Examples: The meaning of conditional statements, the notions of informational content and definiteness.

We plan a joint book. We have submitted one joint paper, with the same title as this talk.



To non-linguists, Sīrāfī is probably best known for his leading role in the public humiliation of the Syrian logician Mattā bin Yūnūs during a debate in Baghdad in AD 932.

In this debate Sīrāfī claims, against Mattā, that the main requirements for assessing the truth of a sentence S are a sound intellect and a knowledge of the meaning of S , and that logic is no help for either of these.

So was he an enemy of all professional logicians?

Possibly, but . . .



Sīrāfī claims: Mattā’s uncritical reliance on Aristotle makes him blind to the complexities of language in actual reasoning.

Ibn Sīnā frequently makes similar criticisms of the Aristotelian tradition:

Aristotle distorted logic by his over-simplistic view of actual linguistic usage,
and his followers continue the distortion out of a misguided loyalty (*taʿ aṣṣub*).

This suggests a common viewpoint — though Sīrāfī and Ibn Sīnā cite different kinds of example. (Sīrāfī cites vocabulary and idioms, Ibn Sīnā cites complex constructions.)

‘Key distinction’

between the *meaning* of a word or sentence in a language,
and the *intention* with which a speaker of the language utters
the word or sentence on a particular occasion.

At first sight this distinction exists in Arabic:

maʿ nā = ‘meaning’.

qaṣd, *garad* = ‘purpose’. *yurīd* = ‘he intends’.

But we find that both Sīrāfī and Ibn Sīnā freely use *maʿ nā* etc.
for the intentions behind particular utterances,
and they both use *qaṣd* etc. for lexical meanings of words,
and for meanings of sentences of the language.

This should raise a suspicion that in fact neither Sīrāfī nor
Ibn Sīnā draws the key distinction just referred to.

Note also the definition of *maʿ nā* in the philosophical lexicon
Taʿ rīfat of Ālī bin Muḥammad al-Jurjānī,
which is heavily dependent on Ibn Sīnā:

Meaning of *X* : what is intended by means of *X*.
maʿ nā : *mā yuqṣadu bi-ṣayʿin*.

The most plausible explanation is that both Sīrāfī and Ibn
Sīnā understand meaning-in-the-language in terms of
speaker’s intention:

The meaning of a word or sentence *P* in the language
L is what would customarily be intended by a person
speaking *P* in *L*.

Both Sīrāfī and Ibn Sīnā speak of how a phrase would be
understood customarily or in ordinary usage (*ʿ ada*).

Problems of two kinds:

1. To explain meanings as intentions may be circular:
obviously we intend other things besides meanings,
so what kinds of intention are intentions of meanings?

Both Sīrāfī and Ibn Sīnā,
and other medieval Arabs with linguistic interests,
regarded utterances as a kind of complex artefact.

The (relevant) intentional features of an artefact are those that
are needed for the purpose for which the artefact was made.
So we ask: what features of the sentence are needed for the
purpose that motivated the utterance?

The answers may illuminate both questions.

2. Don't many features of language depend on the difference
between meanings-in-the-language and the intentions of
particular utterances?

How can Sīrāfī and Ibn Sīnā handle these features?

Speech acts

Some distinctions of speech act are vital for Sīrāfī:
statements, questions, commands, praise, abuse.

I think he regards these as differences of intention
(and hence of meaning).

I don't yet know any place where he describes two sentences
of the same meaning as being used for different speech acts.

This is compatible with lack of the key distinction.

I know of three places where Ibn Sīnā discusses speech acts (see Handout).

Probably not a major interest of his, and unclear whether the separate accounts are compatible.

He raises two complicating factors:

(a) The command ‘Give me a book’ expresses (at some level) the same intention as the statement ‘I want you to give me a book’.

(b) Some distinctions, e.g. between a command and a plea, depend not on intention but on the relative social statuses of the people involved.

Past imposition is independent of present intentions.

Is it open to Sīrāfī and Ibn Sīnā to use imposition as a case of the key distinction?

For Ibn Sīnā, definitely not.

Past meanings are not directly relevant to present ones.

Each utterer has to make their own decision about whether or not to follow precedents, and which precedent to follow with ambiguous words.

This may be Sīrāfī’s view too.

Certainly Sīrāfī believes that each user of the word ‘this’ imposes it on a specific object by indicating that object.

Imposed meanings

We learn our language from our parents and their contemporaries.

Lexical meanings reach us as a datum from the past.

This has often been explained as the result of an original ‘imposition’ of sounds on objects.

There is authority in the Qur’ān for a doctrine of imposition:

And [thy Lord] taught Adam the names of all things.
(*Surat al-Baqara* ii.31)

Explicit and implicit meanings

Today we distinguish as ‘pragmatics’ those meanings in an utterance that depend essentially on the context where the utterance is made — for example the references of indexicals.

Ibn Sīnā makes a different distinction that covers some of the same ground: namely between those parts of the intention that are explicitly stated (*ẓahir*) and those that are elided (*maḥḍaf*, a term used by Sīrāfī and other linguists for syntactic elision).

Note the distinction in Arabic theology between the *Zahirists* who take every sentence of the Qur’ān dead literally, and the *Bāṭinists* who believe that the meanings of sentences in the Qur’ān contain hidden features that need to be teased out by scholarly interpretation.

Ibn Sīnā describes his logical opponents as *Zāhirists*. In his view, Aristotle distorted logic by ignoring the fact that elided meanings play a role in logical reasoning.



Ibn Sīnā bases his treatment of elided meanings on the treatment of contradictory negation in Aristotle’s *De Interpretatione* 6, 17a34–37:

I speak of statements as opposite when they affirm and deny the same thing of the same thing — not homonymously, together with all other such conditions that we add to counter the troublesome objections of the sophists.

This passage, which Ibn Sīnā often refers back to, played a similar role for his semantics to the role played for the Terminists by the *Sophistical Refutations*.



The fact is that a proposition in its intended meaning is not true or false at all, or conceded or rejected, or even conceptualised, to say nothing of its having an opposite, unless it is determinate in terms of all the attachments to its meaning that we have mentioned. (*Ibara* 44.3–6)

For us the interesting thing is that among these ‘attachments’ or ‘conditions’ Ibn Sīnā includes both missing word-meanings and pragmatic elements. For example

... the relation or the modality or the place or the rest of the conditions for the contradictory negation ... (*Safsata* 28.4f)



For ‘relation’: we say ‘three is a half’ meaning ‘three is a half of six’ (*Ibara* 44.3).

For ‘modality’: we say ‘Allah is alive’ meaning ‘Allah is alive permanently’ (*Qiyas* 21.16).

For ‘place’ he gives no example, but presumably: we say ‘The sky is cloudy’ meaning ‘The sky is cloudy above the Warburg Institute’ (or wherever).

Today we would count the first two as semantic elisions, but the third as a pragmatic issue about deixis.



‘Syntactic meanings’

Since we intend an utterance to have the form that it does, its meaning (*maʿnā*) should include its grammatical form. This is exactly what we find in both Sīrāfi and Ibn Sīnā.

E.g. Sīrāfi discusses how the inflectional vowels within certain constructions ‘mean’ that a certain noun is agent of the verb, or object of the verb.

(There is some incoherence. He should have said that the constructions themselves, including the inflections that are part of them, carry this ‘meaning’.)

The same view is less prominent in Ibn Sīnā, but certainly present.

For example in a simple subject-predicate sentence, there is an element of ‘meaning’ (*maʿnā*) which identifies which is the subject-meaning and which is the predicate-meaning.

He identifies this element with Aristotle’s *trítōn*.

This ‘copular meaning’ could be expressed by a separate word, or by expressions attached to subject and predicate, or simply by word order, depending on ‘usage’ in the language.

Both Sīrāfi and Ibn Sīnā identify some inflections as ‘meaning’ a feature of the syntactic construction. For example Ibn Sīnā identifies the inflectional ‘*ya-*’ in ‘*yamšī*’ (‘he walks’) as ‘meaning’ the role of subject.

The effect is that each feature of the surface syntax is identified with some specific intention in the utterance of the sentence.

In Ibn Sīnā’s words,

... the [outer] expression runs parallel to the inner heart [of the proposition] ... (*Ibāra* 38.f)

The effect is to create a theory of meaning, where the meaning of an utterance is a complex whole made up of part meanings corresponding to the syntactic parts of the utterance.

This is the theory I have elsewhere called *Aristotelian compositionality* (to distinguish from the post-Tarski compositionality in Putnam, Partee, Davidson etc., which has no notion of ‘parts of meanings’.)

In our records, Aristotelian compositionality was first formulated with any precision by al-Fārābī (10th c.) and independently Abelard (12th c.).

No common origin is known.

Porphyry is a natural suspect, but the facts above suggest that the Arabic version had input from the linguists.