Syntax and meaning
in al-Sīrāfī and Ibn Sīnā

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http://wilfridhodges.co.uk/arabic30.pdf

The project will compare the views of

- Abū Sa`īd al-Sīrāfī (died 979),
  the first major commentator on Sibawayhi’s founding ‘Book’ (Kitab) on Arabic linguistics, and
- Abū ‘Ali bin Sinā (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.

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 Sinā.

To non-linguists, Sirāfī 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 Sirāfī 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 . . .
Sirāfi 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 (ta‘assub).

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

But we find that both Sirāfi and Ibn Sīnā freely use ma‘nā etc. for the intentions behind particular utterances, and they both use qasd etc. for lexical meanings of words, and for meanings of sentences of the language.

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

Note also the definition of ma‘nā in the philosophical lexicon Ta‘rifat of Āli bin Muḥammad al-Jurjānī, which is heavily dependent on Ibn Sīnā:

Meaning of X : what is intended by means of X.
ma‘nā : ma‘ yuṣṣadu bi-ṣay‘in.

‘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:

ma‘nā = ‘meaning’.
qasd, garad = ‘purpose’. yurtd = ‘he intends’.

The most plausible explanation is that both Sirāfi 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 Sirāfi and Ibn Sīnā speak of how a phrase would be understood customarily or in ordinary usage (‘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?

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 Sinā handle these features?

Both Sīrāfī and Ibn Sinā, 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.

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 Sinā 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 Sirāfi and Ibn Sinā to use imposition as a case of the key distinction?

For Ibn Sinā, 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 Sirāfi’s view too. Certainly Sirāfi 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 Sinā makes a different distinction that covers some of the same ground: namely between those parts of the intention that are explicitly stated (zāhir) and those that are elided (mahdūf, a term used by Sirāfi and other linguists for syntactic elision).
Note the distinction in Arabic theology between the Zāhīristīs who take every sentence of the Qurʾān dead literally, and the Bāṭinīstīs who believe that the meanings of sentences in the Qurʾān contain hidden features that need to be teased out by scholarly interpretation.

Ibn Sīnā describes his logical opponents as Zāhīristīs. 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. (*‘Ibāra* 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 ...

(*Saṣaṭa* 28.4f)

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

For ‘modality’: we say ‘Allah is alive’ meaning ‘Allah is alive permanently’ (*Qiyaṣ* 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 (ma’na) should include its grammatical form. This is exactly what we find in both Sirāfi and Ibn Sinā.

E.g. Sirāfi 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 Sinā, but certainly present.

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

He identifies this element with Aristotle’s tritonym.

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 Sirāfi and Ibn Sinā identify some inflections as ‘meaning’ a feature of the syntactic construction. For example Ibn Sinā identifies the inflectional ‘ya-’ in ‘yamshī’ (‘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 Sinā’s words,

‘... the [outer] expression runs parallel to the inner heart [of the proposition] ...’ (‘Ibarra 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.