

Inner Semantics

Abstract: TBD.

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1. Introduction

This paper introduces and defends a unique and alternative way of thinking about *terms, words, sentences* and their *meanings* (or, alternatively between *propositions* and *facts*). Traditionally, this relationship has been expressed as a kind of *mapping* – a *pointer* between *sentences* and *meanings*.

Formal logic has guided our understanding about the way that words, names, or predicates latch on to the external world. Presumably this occurs by relationships of reference, correspondance, and the like.

For example, the referent of a name would be the thing a name refers to. This basic theory of reference was presupposed by Frege and has been elaborated upon greatly in the face of extensive criticism. Here, and elsewhere, I have criticized the underlying pictorial assumptions presupposed in such representations and theories of meaning and language.

Additionally, I have introduced an intermediate notion: *propositional abstraction* to tidy of this concept and lay the foundation for an alternative conception of meanings. Propositional abstraction implements *inner semantics* as opposed to the metaphor of semantic webs. Truth-conditions, for formal propositions, can be verified without recourse to external semantical objects like models, shifts in conventional meaning, or structures insulating meaning from semantic drift.

2. *Pointer Theories*

Traditionally, a word has been conceived as combination of morphemes and phonemes so assembled that upon use (utterance or writing) the word's assigned meaning (specified by use – consider slang not yet accepted by a dictionary - on one view, definitionally specified via a publicly defined asset like a dictionary, or by mapping to the world via a relation of correspondance justifying the other two approaches).

I shall loosely group all such views under the heading “pointer theories”. Pointer theories, in one way or another, see the meanings of words as being assigned like a person saying a sound and pointing at something (whether it is a reference in a dictionary, a kind of behavior, or an item in the external world).

Pointer theories give rise to the common and popular “web of meanings” metaphor often encountered throughout philosophy. I would like to propose an alternative conception which is that the meanings of words and propositions are largely self-contained.

I will not argue that it is the correct and/or sole view that one ought to hold with respect to words or propositions. Instead, I will often this view, in line with a general meta-philosophical methodology (that is, that philosophy may be descriptive, normative, or what have you but it also creative – a repository for ideas that are presently useful or even better a potent reservoir for ideas, or portfolio of them, that have yet to find their time).

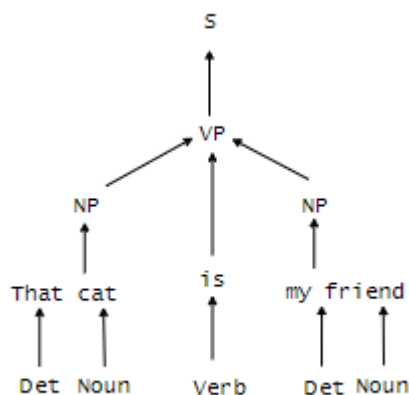


Fig. 1 – Sentence tree.

Traditional views of meaning (note that the definitions below presuppose linguistic atomism – that expressions are built up from well-formed sub-units like phonemes, morphemes, letters, characters, terms, phrases, and so on):

Definition. *Inferentialism.*

The meanings of expressions, sentences, and terms are given by their inferential profiles, the inferential relationships between them define their respective meanings.

Definition. *Descriptivism.*

The meanings of expressions, sentences, and terms are given by descriptions or definitions. Dictionary definitions (other expressions) define the meaning of linguistic items.

Definition. *Correspondance.*

The meaning of expressions, sentences, and terms are given by reference to some item in the world.

Definition. *Meaning as Use.*

The meaning of expressions, sentences, and terms are given by how they are used (pragmatics) within a community.

Definition. *Internal Semantics.*

The meaning of expressions, sentences, and terms are given by the internal contents of a person's mind.

These are by far the most dominant views on how meaning and reference work in language in terms of historical influence, formulation of mathematical theories, and presuppositions in leading logical and analytical tools at use today.

The key idea is that the symbolic expressions (or auditory) are fundamentally distinct from though nevertheless associated with some unit of meaning.

3. *Definitions*

With respect to definitions, traditionally, two broad conceptions have dominated our understanding of this very fundamental concept (indeed, such conceptions are presupposed or made explicit within linguistics, computer science, and mathematical logic):

1. *Intensional* definitions or sentences (whereby the predicates of assertions are described by a unifying property had by all bearing members)
2. *Extensional* definitions or sentences (whereby the predicates of assertions are described by a specific list of all bearing members).

4. *Propositional Abstraction*

A method by which we translate (transform) a *sentence - meaning* pair into a singular entity.

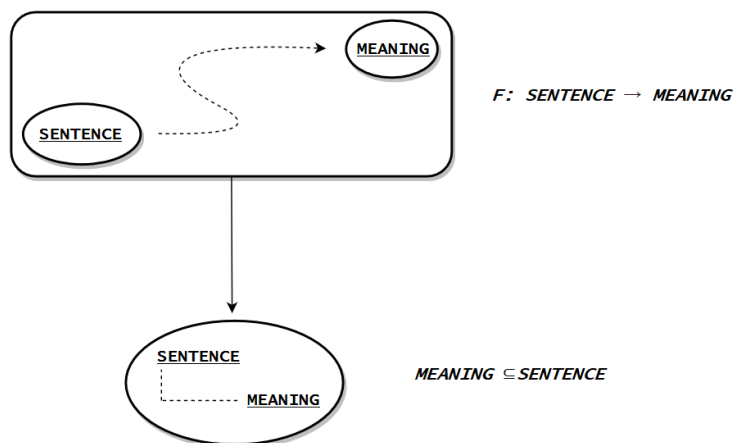


Fig. 2 – Visual depiction of the method of Propositional Abstraction.

Most of analytic philosophy has been conducted through the continued obsession with sets. There are numerous other data structures that are far more interesting – these are lessons brought back into Philosophy from Computer Science (which

like every science was spawned within philosophy and spun off and like every science its independent ideas largely ignored by philosophers ever since).

5. *Inner Semantics*

Internal Semantics falls into a camp that also opposes the dominant pointer theories laid out above. Meaning is associated with some internal content with a language user's mind.

Inner semantics, by contrast, eliminates the subjective component to internal semantics. The meaning of a sentence is fixed within the sentence itself with no external locus of meaning (whether the world, a definition, or a mental content).

There are well-known precursors that get close to the objective here. One is the JSON-LD specification maintained by the W3C working group.¹ The JSON-LD specification separates names-spaces and entities into an explicitly defined context in addition to the standard key-value mappings of the JavaScript Object Notation.

The specification allows one to disambiguate object references and entities types across numerous ontologies (e.g. – those provisioned or implemented within a database or domain) which are common in computer science and engineering.

```
{
  "@context": "http://schema.org/",
  "@type": "Person",
  "name": "Jane Doe",
  "jobTitle": "Professor",
  "telephone": "(425) 123-4567",
  "url": "http://www.janedoe.com"
}
```

Note that JSON-LD references externalized ontological types and it is therefore a pointer theory. However, that is not at all the aim of the specification (which is to collate numerous ontological kinds into a more uniform index of pre-defined types).

¹ <https://json-ld.org/>

However, the method of abstracting out kinds is useful and deserves a strong nod as a stepping stone to this novel way of thinking about semantical concepts too.

6. *The Inner Semantics Operator*

In addition to the method called Propositional Abstraction, I define the *Inner Semantics Operator*. It is a *sentential operator*:

1. *Non-diagonalized* and hence no recursion.
2. Is defined in the *meta-logic* and not within the domain of logic.
3. Has no *extension*.

By its very use, it indicates that the meaning of the sentence it is concatenated with is fixed at the moment it is combined. The meaning is exactly that which is specified within its primitive self-contained definition.

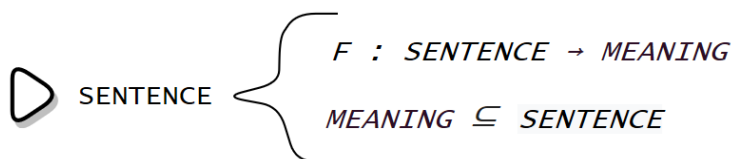


Fig. 3 -

The *use*, *definition*, *inferential profile*, and so on are all specified here.

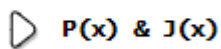


Fig. 4 - Example of use in an extension of First Order Logic.

Example.

$$I(P(x) \ \& \ J(x)) =_{df}$$

```

{
    "semantics": {
        x:P
        x:J
    }
    "truth-value": true
}

```

Note that the specific language or medium of implementation is irrelevant here. The symbols contained with the sentences are permanently fixed, along with any association to each other. Any alteration of these relationships or symbols is simply another sentence.

7. *Semantic Shift*

Three examples of semantic shifts.

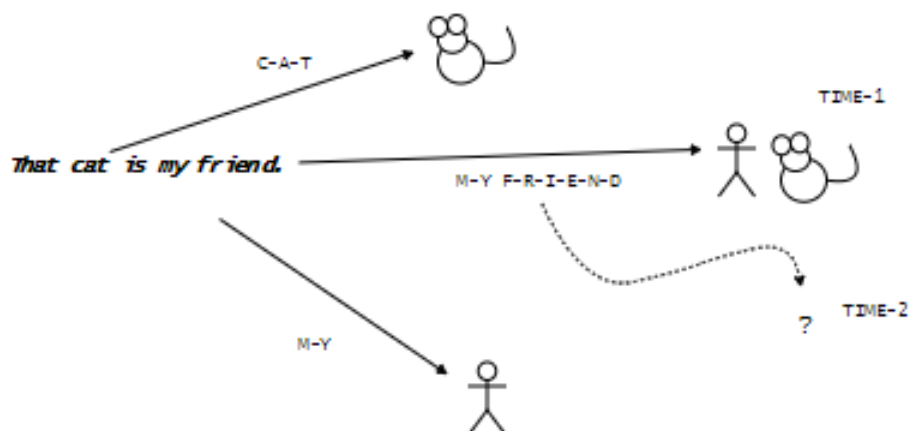


Fig. 5 -

While the tokens, the symbols, the sounds of a sentence remain unchanged. Their meanings have shifted. The same sentence uttered, read, or written at two different times have different meanings.

The original or intended meaning can be recovered by only by reference to the etymology of the term or through a tradition of scholarly study.

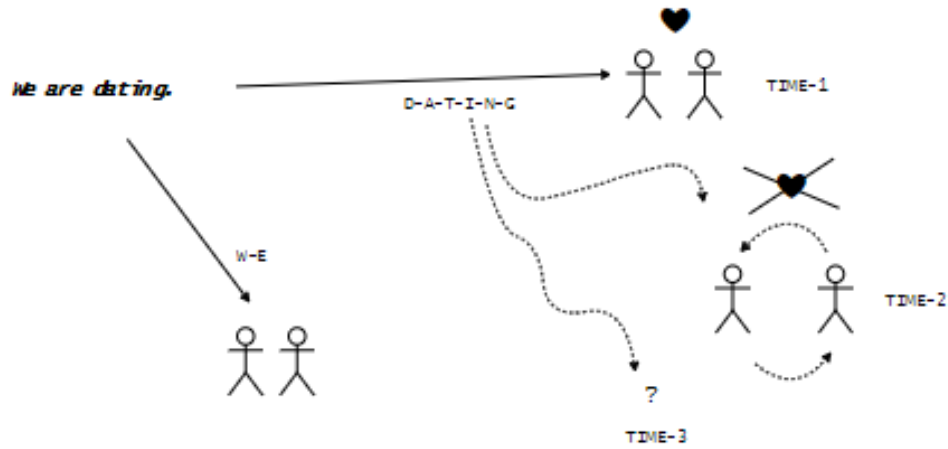


Fig. 6 -

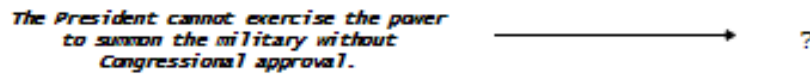


Fig.7 -

Works Cited

Akerlof, George. "The Market for "Lemons": Quality Uncertainty and the Market Mechanism" *The Quarterly Journal of Economics* Vol. 84, No. 3. (Aug., 1970), pp. 488-500.

<https://json-ld.org/>