*Language and Ontology*

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Handout 3

**Roles of Entities in the Semantic Structure of Sentences and the Notion of a Situation**

**1. The language-related criterion for objecthood**

**1.1. Entities as referents of singular terms**

(1) a. The Fregean criterion of objecthood

 An object is what a singular term stands for.

 b. The Quinean Criterion for Ontological Commitment

 To be is to be the value of a bound variable.

Issues:

* ‘Nonexistent’ objects as referents of singular terms
* Pluralities of objects as referents of terms that are in fact plural terms, not singular terms, including perhaps kind terms (bare plurals and mass nouns)
* Apparent singular terms not truly acting as singular terms (e.g. predicative complements, terms that are complements of intensional predicates (*need, look for*), perhaps *that-*clauses)

**1.2. Other ways for entities to be involved in the semantic structure of sentences**

**1.2.1. Entities as implicit arguments of relational predicates**

(2) a. John has eaten. (existentially quantified implicit argument)

 b. A: It is raining. B: I know. (Null Complement Anaphora)

 c. It is raining (contextually given implicit location argument)

(3) Variation of the Fregean crirerion

 An object is what is an argument of a predicate

**1.2.2. Entities as implicit referents of deictic modifiers**

Deictic adverbial modifiers:

(3) a. John worked so hard (contextually given ‘degree’).

 b. John worked too hard (contextually given standard)

Nominal modifiers:

(4) a. John took a different route.

 b. John will come another time.

 c. John knows more people than Mary.

Semantic analyses

Contextual element as an argument of the indexical expression:

*So* and *too* expressing relations between events and degrees

So(e, d): the degree associated with e is d

Too(e, d): the degree associated with e exceeds d

*Different, another* as relational expressions:

Different route(x, y) iff route(x), route(y) and different(x, y)

**1.2.3. Entities as parameters of evaluation**

**1.2.3.1. Times as parameters of evaluation**

Past tense and *always* as temporal operators, shifting the time of evaluation:

(5) a. John is happy.

 b. For a time t, [*John is happy*]t = true.

(6) a. John is always happy.

 b. For a time t, [*John is always happy*]t = true iff for all times t, [John is happy]t = true.

(7) a. John was happy.

 b. For a time t, [*John was happy*]t = true iff for some time t’, t’ < t, [*John happy*]t’ = true.

Ontologically committing?

Times as referents of singular terms

(8) a. John was happy at that moment.

 b. For the context of utterance c [*John was happy at that moment*]c = true iff for the time

 t such that t = [*that moment*]c, [*John happy*]t = true

(9) a.. John was happy yesterday.

 b. For a time t, [*John was happy yesterday*]t = true iff for some time t’, t’ is part of t’’,

 t’’ = [*yesterday*]t and [*John was happy*]t’ = true.

Reformulating of temporal operators as quantifiers

*Always* as a quantifier binding a time variable, *happy* expressing relation between individuals and times

(10) a. John is always happy.

 b. ALWAYS t: happy(John, t)

Next time

Davidsonian semantics of tense: using only events and their temporal relations to each other

**1.2.3.2. Possible worlds as parameters of evaluation**

Motivating possible worlds

Sentences are not just true or false or true or false at a time, but could be true or false in different circumstances.

* Different circumstances of evaluation of the truth of falsehood of a sentence
* Sentences meanings (propositions) as sets of circumstances in which the sentence is true
* Propositions as sets of worlds or sets of world-time pairs

(11) [*John is happy*] = {<w, t>| *John is happy* is true in w at t}

Modal operators as quantifiers ranging over worlds

Epistemic modals:

(12) a. John must be happy

 b. ∀w(wRw’ 🡪 [*John is happy* ]w = true)

(13) a. John may be happy.

 b. ∃w(wRw’ & [*John is* happy]w = true)

Deontic modals etc: same analysis

(14) a. John must leave.

 b. John may leave.

 Conditionals

(15) a. If John is happy, Mary is happy too.

 b. If John were happy, Mary would be happy too.

Various possible-worlds-based analyses, in the spirit of these paraphrases:

(16) a. In a world w in which John is happy, sufficiently close to the actual world, Mary is

 happy in w too.

 b. In every world w in which John is happy and that is otherwise maximally similar to the

 actual one, Mary is happy in w too.

Possible worlds as referents of singular terms?

*Then*: as an anaphor referring to a counterfactual world or past/future time:

(17) a. If John were happy, *then* Mary would be happy too.

 b. John left. Then Mary left.

 c. John will leave. Then Mary will leave.

With a sortal noun:

*Possibility*: restricted to partial possible worlds:

(18) ??? The possibility that John is happy is the possibility that Mary is happy.

*In those circumstances*:

(19) a. John might leave the party. In those circumstances Mary might leave too.

*In that case*: also restricted to partial possible worlds

 b. John might leave the party. In that case, Mary might leave too.

 c. ??? The case in which John leaves the party is the case in which Mary leaves the party.

Problems with propositions as sets of possible worlds

No semantic differentiation among logically equivalent sentences

Propositions as the objects of propositional attitudes: the problem of logical omniscience

Motivation for Situation Semantics (Barwise/Perry 1983)

Replace sets of worlds by sets of possible situations

Also situation-based account of conditionals (Kratzer, Fine)

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**2. On the ontology of situations and related entities**

**2.1. On the ontological distinction between situations, states, events, facts, and tropes**

Some intuitions

Situations:

are parts of worlds, are possible or actual (exist/obtain or do not exist/obtain)

States of affairs:

same thing: states of affairs are possible or actual, but perhaps states of affairs that exists may or may not obtain

Facts:

must be actual, that is, facts obtain iff they exist

Events:

Examples: John’s walk, the destruction of the city, the surrounding of the city

Properties: concreteness: in space and time, enter causal relations, may be objects of perception, are fully specific, involve change

States:

Examples: the state of John’s being happy, John’s sleeping

Like events but without change? Later: distinction between abstract and concrete states

Tropes:

Examples: John’s happiness, Socrates’ wisdom, the whiteness of Socrates

Other terms for tropes: *instantiations of properties in objects, particularized properties, modes, accidents, cases, features*

Properties of tropes: dependent on a bearer, similarity based on same property instantiated (two tropes are similar in case they instantiate the same property),

concreteness: are in time, in space (?), enter causal relations, can act as objects of perception

The abstractness of facts, situations, states of affairs

* spatio-temporal location?
* objects of perception?

The concreteness of events and tropes

Events and tropes: are ‘in’ the world, on a par with material objects.

**2.2. Two notions of fact**

Facts a non-wordly (Strawson 1950)

Facts correspond to true propositions, as propositions ‘qua being true’.

Facts are not ‘in’ the world or part of the world, but ‘at’ the world.

In natural language:

(20) a. the fact that John did not walk home

 b. the fact that someone came late.

*The fact that* S: stands for a non-worldly fact

Facts as worldly (Austin 1979)

Facts make propositions true, are ‘in’ the world.

*The facts*: picks out facts as part of the world

(21) What he says does not correspond to the facts.

Differences between non-worldly and worldly facts

- Non-worldly facts may be constituted by determinable, unspecific properties, but not so for worldly facts.

(22) a. The table is white.

 b. John is happy.

- Non-worldly facts may be constituted by disjunction, but not so for worldly facts:

(23) John is a teacher or a student.

If John is a teacher and a student, there are two worldly facts, but only one non-worldly fact

- Non-worldly facts may be constituted by existential quantifiers, but not so for worldly facts:

(24) Someone came late to the meeting.

If two people came late, there are two worldly facts, but only one non-worldly fact

- Universal quantifiers:

(25) Every student failed the exam.

Complex worldly fact: sum of all the facts involving a particular student failing the exam.

B. Russell, D. Armstrong:

This is not enough, what must be added is the condition that the students failing the exam exhaust the (relevant) set of students (‘Allness Condition’ (Armstrong 1997))

Worldly facts

- grounded in specific properties

- grounded in particular individuals

- enter mereological relations and operations:

* sums of facts
* part relation among facts

**Situations**

most commonly conceived as possible worldly facts, i.e. parts of possible worlds

Situations as partial possible worlds

- share ontological status of possible worlds

- as primitives (Hamblin, Kratzer, Fine)

- as composed of properties, individuals, quantifiers: Situation Semantics (Barwise / Perry)

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**3. Semantic roles of situations**

Situation Semantics (Barwise / Perry 1983)

- described situations: situations described by the entire sentences: denotation of sentence as set of described situations

- resource situations: situations relative to which NPs (referential, quantificational) are evaluated: specify domain for definite descriptions or quantifiers

quantifier domains:

* different NPs in the same sentences may require different resource situations
* resource situation may be distinct from described situation: in time, in space, domain

A more standard view

* utterance situations as ‘indices’: determine proposition expressed
* situations as parameters for the evaluation of the truth of a sentence (described situation)

Austinian propositions

Sentences are evaluated with respect to a ‘topic’ situation the speaker refers to.

Propositional content is merged with ‘topic’ situation

Further semantic roles of situations

1. Generics (Schubert / Pelletier 1984)

(26) Cats usually land on their feet.

2. E-type pronouns / definite descriptions (Moltmann 2006)

(27) a. When John buys a book, he reads it.

 b. For any minimal situation s in which John buys a book, s can be extended to a situation

 s’ such that John reads in s’ the only book he bought in s.

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