Philosophy of Language: Natural Language Ontology
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Handout 8

The Core-Periphery Distinction in Natural Language Ontology

1. Continuation of last time

Complex property-referring terms
The property of XP

XP in English: gerund
(1) a. the property of being red
In French: infinitival clause
(1) b. La propriété d'être rouge
In German: infinitival clause
(1) c. die Eigenschaft, rot zu sein
In Italian: infinitival clauses (but Italian has gerunds!)
(1) d. la proprietà di essere rosso

The constraints
Semantic constraints on verbs:
1. No eventive verbs – in any thematic role
(2) a. ??? the property of walking
b. ??? the property of meeting Joe
c. ??? the property of being hit by Joe

2. No concrete state verbs (verbs describing bodily positions or states):

(3) a. ??? the property of sleeping / standing / sitting / kneeling

b. ??? the property of living

c. the property of living in Munich

3. Abstract state verbs always permitted

(4) a. the property of owning an apartment

b. the property of owing someone money

c. the property of resembling one's parents

d. the property of knowing a foreign language

Dispositional (readings of) verbs:

(5) a. the property of speaking French

b. ??? the property of speaking right now

(6) a. the property of eating meat

b. ??? the property of eating that piece of meat

4. Always possible: the property of being XP, XP = NP or AP

<u>Nouns vs. verbs</u>

(7) a. the property of being the cause of a commotion

b. ??? the property of causing a commotion

(8) a. the property of being the initiator of an investigation

b. ??? the property of initiating an investigation

(9) a. the property of being the object of perception

. b. ? the property of being perceived

<u>Adjectives vs. verbs</u>

(10) a. the property of being asleep

b. * the property of sleeping

(11) a. the property of being alive

b. ? the property of living

French:

(12) a. la propriété d'être debout

b. * the property of standing

German

(13) a. die Eigenschaft, krank zu sein

b. ??? die Eigenschaft zu kraenkeln

'the property of being sick'

5. Stative vs. eventive copula verbs

(14) a. the property of *being* sick / cancer free

b. ?? the property of *remaining* sick / cancer free

c. ??? the property of *becoming* sick / cancer free

6. Existence predicates

(15) a. the property to exist

b. ??? the property of taking place / happening / occurring

Evaluation of the data

Some generalizations:

[1] The distinction between abstract states and concrete states matters.

Abstract states:

- No spatial location, no concrete manifestation, no manner modification,
- May be quantificational.

Abstract states like Kimean events?

(16) Kimean notion of a state

For properties P and P' and objects o and o',

a. The state s(P, o) = the state s'(P, o) iff P = P' and o = o'.

b. The state s(P, o) exists at a time t iff o has P at t.

But what about dispositions?

Abstract states form Davidsonian argument of:

- stative verbs that do not convey bodily positions
- verbs on a dispositional / generic reading
- the copula verbs *be* and *remain*

[2] The empty subject of gerunds or infinitival clauses: PRO

Arbitrary PRO correlates with generic *one*:

(17) a. PRO To love one's parents is a good thing.

b. PRO resembling one's parents is normal.

(18) a. the property of loving one's parents

b. the property of resembling one's parents

But properties of inanimate objects?

(18) c. the property of being identical with ?? oneself / * itself / ok of being self-identical

Suggestive analysis

The property of XP is an 'identificational construction':

The property being referred to is identified with an abstract state, as a predicable entity.

General observation

It is implausible that the restrictions on complex property-referring terms have been explicitly learned. Such terms rather seem to involve a notion of a property that is part of core (universal) ontology of natural language.

But there are also reasons to take properties to be part of the periphery…. (see below)

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2. The Core-Periphery Distinction

2.1. Basic data

Technical expressions and philosophical uses of expressions do not count for natural language ontology

(1) a. entity, set, number, property

b. existence

c. the nothing (Heidegger

Philosophical use vs ordinary of language:

All sortals can be used by particular philosophers (and others), having specific notions in mind.

'Ordinary Language Philosophy' (Austin, Moore, Wittgenstein, …):

Discard philosophical uses, focus on ordinary uses of philosophically relevant expressions (and philosophical problems may disappear).

But non-ordinary uses are also linguistically legitimate – and require a semantic/ontological analysis.

Nouns vs verbs:

Existence vs. *exist*

(2) a. the existence of everything

b. ??? The rain still exists.

c. ??? The protest does not exist / ok is taking place.

Meaning vs. *mean*

(3) a. The meaning of rouge is a property / concept / set / …

b. 'Rouge' means 'red' / something.

c. ??? 'Rouge' means the property of being red / a set / an entity.

Categories

Plurals vs singular count

(4) the children are large.

Cannot mean the group of children is large

Apparent generalization

Syntactic features, categories, silent elements do not permit for a non-ordinary, philosophical use. More generally, the functional part of grammar does not permit for a non-ordinary use.

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3. Reifying terms and apparent abstract terms and in English

3.1. Type 1 reifying terms

The N-direct quote

(5) a. the number eight

b. the concept horse

c. the truth value true

d. the direction north

e. the color blue

Explicit expression referring

(6) a. the noun house

b. the sentence *Ich liebe dich*

Close appositions:

(7) a. the poet Goethe

b. die Stadt Muenchen

'the city of Munich'

Constraints

(8) a. * the property red

b. ? the person Goethe

c. * the poet my neighbor

Suggested analysis

Reification of an entity on the basis of what is conveyed by a direct quote:

an expression (with its contexts of use) or its conceptual meaning.

Other reifying terms of the same type?

(9) the sum / set / collection / fusion of John and Mary

3.2. Type 2 reifying terms

The N That S / to VP / V-*ing* XP

3.2.1. Explicit property-referring terms vs adjectival nominalizations

[1] NPs referring to qualities (*quality terms*)

wisdom, happiness, redness, beauty (not derived from an adjective)

NPs with the sortals *quality* and *virtue* : *the quality of gentleness, the virtue of humility*

[2] NPs standing for property objects (property terms)

the property of being wise

Choice of head noun is important: *quality* and *virtue* do not lead to property-referring terms.

[1] Existence predicates

(10) a. Wisdom exists.

b. The property of wisdom exists.

c. The quality of gentleness exists.

[2] Episodic or 'stage-level' predicates (Carlson 1977)

(11) a. John encountered wisdom.

b. ?? John encountered the property of wisdom.

c. John encountered the quality of humility.

[3] Intensional transitives

(12) a. Mary needs wisdom.

b. ?? Mary needs to property of being wise.

c. Mary needs the quality of humility.

[4] 'Characterizing' or 'individual-level predicates' (Carlson 1977)

(13) a. Wisdom is admirable.

b. ??? The property of wisdom is admirable.

c. The quality of wisdom is admirable.

[5] Frequency predicates

(14) a. True wisdom is rare.

b.??? The property of being truly wise is rare.

c. The virtue of humility is rare.

For any quality noun N, N is, more or less, interchangeable with *instances of* N:

(15) a. Instances of wisdom do not exist.

b. John found instances of wisdom.

c. John needs instances of gentleness.

d. Instances of wisdom are admirable.

e. Instances of gentleness are rare.

Instances

The generosity of the gesture, John's generosity, the wisdom of Socrates, the redness of the apple are examples.

Qualities as kinds of modes / tropes.

Quality terms exhibit just the sort of readings with the five predicates that bare plurals and mass nouns exhibit, i.e. kind terms in the sense of Carlson (1977):

(16) a. Black Swans / White sand exist.

b. John found shells / white sand.

c. John needs shells / white sand.

d. Black swans / White sand are / is beautiful.

e. Black swans / White sand are / is rare.

Bare plurals and mass nouns do not refer to kinds on the usual understanding

Any modified mass or plural nominal can be used that way:

polluted water, sick swans

In contrast to: *the metal gold* or *the kind human being*:

(17) a. ??? John needs the metal gold.

b. ??? John encountered the kind human being

Two options for construing qualities

[1] Qualities as entities that just cannot bear properties themselves (Moltmann 2006).

But how to make the notion of an entity unable to be properties intelligible?

Bears properties like being an entity is an entity and should be able to bear properties as a whole.

[2] Qualities as (modalized) pluralities of tropes, (instances of qualities), that is as pluralities of actual and possible tropes (Moltmann 2013a). (Yi 1999, 2000)

But why do pluralities of the modalized sort have predicates apply in the particular ways they do, when ordinary pluralities, the denotations of definite plurals (the students) don't?

3.2.2. Apparent number-referring terms

(18) The number eight is an abstract object / exists / can be identified with a set…

Simple numerals: *two,*

Number aspect terms: *the number of planets*

Simple numerals are not generally interchangeable with explicit number-referring terms:

(19) a. two and two is four.

b. ?? ? The number two and the number two is the number four.

(20) a. John added two to two hundred.

b. ?? John added the number two to two hundred.

The Adjectival Strategy

Even in referential position, t*wo* has an 'adjectival' meaning on which it stands for a number property or quantifier.

In philosophy of mathematics: Dummett (1973) and Hodes (1984).

In semantics: Moltmann (2013a, b), Hofweber 2007)

Evidence that number aspect terms do not stand for pure numbers, but rather number tropes

(21) a. John noticed the number of children / ??? the number eight.

b. The number of children / ??? Twenty is astonishing.

c. ??? The number fifty is the number of children at this school.

Simple numerals not very good with non-mathematical predicates

(21) a. The number twelve, which interests me a lot, is an important number in religious and cultural contexts.

b. ?? Twelve, which interests me a lot, is an important number in religious and cultural contexts.

(22) a. the number twelve, which I would like to write my dissertation about, …

b. ?? twelve, which I would like to write my dissertation about, …

Applying the Adjectival Strategy

If simple numerals have an adjectival meaning, then predicates and functors applying to them must undergo type shift. This makes sense only for mathematical predicates and functors.

3.2.3. Apparent proposition-referring terms

The standard view

Propositions are abstract, mind-independent objects that are referents of *that*-clauses and contents of attitudes.

Proposition-referring terms vs *that*-clauses:

(23) a. * That Fido is a dog exists.
b. The proposition that Fido is a dog exists.
(24) a. ??? That John likes Mary more than Sue is complex.
b. ??? That Fido is a dog and Joe a cat is conjunctive.
c. ??? That everyone like Fido is quantificational.
(25) a. The proposition that John likes Mary more than Sue is complex.
b. The proposition that Fido is a dog and Joe a cat is conjunctive.
c. The proposition that everyone like Fido is quantificational.

Alternative view of *that*-clauses

- Are semantic predicates predicated of content bearers such as claims, beliefs (Moulton, Elliot, Moltmann).
- May also serve a referential role, enabling reference to facts or contextually given claims (*John recognized (the fact) that* S), *John denied (the claim / suggestion) that he will come*

Reference to propositions as abstract objects only in the periphery of language, through reifying terms, not in the core of language with simple *that*-clauses.

3.2.4. Explicit fact-referring terms, possibility-referring terms

(26) a. the fact that someone failed the exam
b. the possibility that someone might have failed the exam

Two notions of facts

Facts as abstract, as non-worldly facts (Strawson)

Facts as concrete, as worldly situations (Austin)

3.3. The Abstract-Objects hypothesis

The generalization

Apparent referential terms analysed away:

- Bare adjective nominalizations, bare plurals and mass nouns: as modalized plurally referring terms

- Simple numerals: retain the meaning they have as adjectival modifiers or quantifiers
- *That*-clauses: not generally referential; but as semantic predicates of content bearers

Terms referring to or quantifying over abstract objects:

- Reifying terms of either type
- More generally, NPs with sortals for abstracta as head nouns.

(27) The Abstract-Objects Hypothesis (Moltmann 2013a)

Natural language does not permit reference to abstract objects in its core, but only in its periphery.

Linguistic indication of abtractness

(28) a. The property of being kind is somewhere.

b. The number two is everywhere.

c. the proposition that it is raining is here.

(29) a. The property of being kind made Mary happy.

b. The number two caused little surprise.

c. The proposition that S made Mary happy.

Criteria of abstractness

- Not in space
- No causal powers
- Being obtained by abstraction

Fregean abstraction

Introduces an object by settling its identity conditions in terms of the sequence of the non-abstract objects.

Fregean abstraction of numbers as abstract objects

(30) For concepts C and C', the number of C = the number of C' iff C and C' are co-extensional.

Kimean notion of a state

(31) For properties P and P' and objects o and o',

a. The state s(P, o) = the state s'(P', o') iff P = P' and o = o'.

b. The state s(P, o) exists at a time t iff o has P at t.

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4. Getting back to property terms

The puzzle

Complex property-referring terms should belong to the periphery, given the Abstract-Objects Hypothesis and the fact that reifying terms generally belong to the periphery.

However complex property-referring terms do not permit non-ordinary, philosophical uses regarding their modifier, but seem to be subject to constraints that are part of core ontology (restriction to abstract states).

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