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handout 3

Seminar Semantic Structure and Ontological Structure

Tropes and their Role in the Semantics of Natural Language

Handout 3:

Kinds of Tropes and Other Universals

1. A little more about trope reference

1.1. Refinement of Trope Reference

the problem of the identity of 'polar' tropes:

the darkness of the room – the lightness of the room

John's strength – John's weakness

Quantitative predicates like *exceed*, *great*, *negligible* apply in only *one* way:

The darkness of the cellar exceeds the darkness of the kitchen.

Thee darkness of the cellar is great / negligible.

difference to

1. ordinary individuals

John's exceeds Mary

- in height
- in strength

- in talent

2. events

John's laughter / action exceeds Mary's laughter / action.

- in intensity
- in time
- in unexpectedness

motivation for qua tropes:

John's strength: John's physical condition qua being a strength

John's weakness: John's physical condition qua being a weakness

qua trope ensures limitation of trope to one respect:

Can be obtained from the nature of tropes as such?

'Tropes are obtained by abstracting from all the properties of an object except one'.

alternative:

distinguish between

primary properties (those associated with the property attended to),

secondary properties (those possibly inherited from the bearer), and

tertiary properties: extrinsic properties (being unexpected, being appreciated etc)

but this is not sufficient: gloss of a qua trope also needed to ensure direction of ordering

qua tropes means : trope as partly conceptual entities

t qua P:

P a universal (a property or rather kind), generally abundant property (content of an adjective)

P induces ordering:

John's weakness: physical condition qua being a weakness

weakness: denotes sets of ordered physical conditions (standard tropes) or rather functions from indices to such sets

John's weakness: John's physical condition qua such a function

weakness: a kind of trope → see below

1.2. Ontological dependence and apparent lack of bearer uniqueness

the knife's sharpness - the blade's sharpness

ontological dependence of trope on bearer

Every trope must have a bearer and must have a unique bearer.

ontological solutions:

Levinson (1980): tropes relatively independent of their bearers

Lowe: tropes do not determinate identity conditions

problem: what does this mean?

semantic solutions:

Schnieder: the x's *A-ness* construction denotes a trope with bearer d such that d may just be a designated part of x or constitute x

problem:

the condition overgenerates

another solution:

'that sharpness': a predicative trope, shared by the sharpness of the knife and the sharpness of the blade

the sharpness of the knife: 'completed' trope, differs in modal properties of the blade's sharpness (could not exist with only the blade alone being there)

yet another possibility:

distinguish different predicates *sharp*, which though may have the same truthmaker

2. Tropes and Universals

2.1. Standard contemporary philosophical view

Williams (1953):

Properties are collections of resembling (exactly similar) tropes.

(individuals bundles of compresent tropes)

thus:

one sort of universal, universal constituted by tropes;

individuals constituted by tropes in other ways

medieval (ancient) view:

some universals are instantiated by individuals (sortal universals: man, mankind)

some universals are instantiated by tropes (whiteness)

Aristotle: whiteness: instantiated by tropes, predicated of individuals

2.2. Natural Language terms for universals

2.2.1. terms for universals

nominalizations of adjectives: *happiness, roundness* etc

nominalizations of nouns: *fatherhood, womanhood*

→ tropes based on sortals → tropes involving essential properties ('substantial forms')

state descriptions: *John's being handsome, John's being strong*

trope descriptions: *John's handsomeness, John's strength*

states as universals: *being handsome, being strong*

terms for universals corresponding to trope-referring terms:

handsomeness, strength, roundness, fatherhood

linguistic form: bare (determinerless) adjective (noun) nominalization

explicit property-referring terms:

the property of being round

the property of roundness

other terms:

the quality of being gentle, the quality of gentleness

the virtue of being humble, the virtue of humility

the character trait of being impatient, the character trait of impatience

2.2.2. semantic difference between explicit property-referring terms, (universal) state terms and bare nominalizations

the property of being blue vs blueness:

in the literature:

Woltersdorff (1960): notes that the terms are not in all context interchangeable, maintained that they nonetheless refer to the same entities

Levinson (1979): makes ontological distinction between properties (the property of being blue, being blue) and qualities (blueness)

the differences between properties and qualities

1. mass vs count

being wise – no determiner possible

wisdom – some / so much / a little / more / no wisdom

2. partitive vs being involved in its entirety

(1) a. There is some wisdom in the book

b. * There is being wise in the book.

(2) a. John has some wisdom.

b. * John has some of the property of being wise / * some of being wise.

3. temporal / modal properties

(4) a. Humility used to be more common / more widespread than it is now.

b. ?? The property of being humble / of humility used to be more common / more widespread than it is now.

(5) a. Artistic talent could have been more developed.

b. * The property of being artistically talented could have been more developed.

4. inheritance of properties

distinguish inheritance properties for different classes of predicates:

i. episodic predicates

(6) a. John has encountered hostility.

b. John has encountered the property of being hostile.

(7) a. Generosity is rarely reciprocated.

b. The property of being generous is rarely reciprocated.

ii. predicates of evaluation

(8) a. Friendliness is nice.

b. The property of being friendly is nice.

(9) a. Ordinariness is boring.

b. The property of being ordinary is boring.

iii. intensional predicates

(10) a. John is looking for honesty.

b. John is looking for the property of being honest.

(11) a. John needs efficiency.

b. John needs the property of being efficient.

iv. existential predicates

(12) a. Generosity exists.

b. The property of being generous exists.

v. instance-distribution predicates

(13) a. Honesty is rare.

b. Sloppiness is widespread.

(14) a. ?? The property of being honest is rare.

b. ?? The property of being sloppy is widespread.

lack of property inheritance not limited to explicit property descriptions:

(15) a. John never encountered the attribute of honesty / that property / that entity / that thing.

b. The attribute of honesty / That property / That entity / That thing is interesting.

c. John needs the attribute of honesty / that property / that entity / that thing.

d. The attribute of honesty exists.

e. The attribute of honesty / that property / that entity / that thing is rare.

2.3. Kind reference

parallels to other kind terms (for kinds of substances / individuals):

simple bare mass nouns and plurals:

(16) a. John found gold.

b. John bought apples.

(17) a. Gold is shiny.

b. Apples are healthy.

(18) a. John needs gold.

b. John needs apples.

(19) a. Yellow roses exist.

b. Three-legged dogs exist.

(20) a. Dinosaurs are extinct.

b. Pink diamonds are rare.

c. Pigeons are widespread in Europe.

explicit kind-referring terms behave same way (Carlson's observation):

(21) a. John found this kind of fruit.

b. This kind of animal is striped.

c. John needs this kind of metal.

d. This kind of animal exists.

against making bare nouns ambiguous (my observation):

(22) John found something that is rare, not often needed, and very expensive, namely pink diamonds.

conclusion:

Bare adjective nominalizations refer to kinds of tropes, just like bare mass nouns refer to kinds of quantities, bare plurals kinds of collections.

Other terms that refer to kinds of tropes or trope-like entities

- (23) a. John never encountered this kind of behavior.
b. This kind of behavior is interesting.
c. John does not need this kind of behavior.
d. This kind of behavior is rare.

Same argument against ambiguity of the NP::

- (24) a. John encountered the same thing as Mary, namely hostility.
b. Courage is something that is admirable.
c. John needs something, namely courage.
d. True courage is something that is rare.

Other terms referring to kinds of tropes or trope-like entities:

- (25) a. John never encountered the character trait of shyness / the quality of honesty.
b. John likes the character trait of shyness / the quality of honesty.
- (26) a. John never saw this shape.
b. ?? John never saw the shape of this object.
- (27) a. John never saw this color.
b. ?? John never saw the color of that flower.

→ relational vs nonrelational alternation: nonrelational: kind term, relational: trope term

- (27') a. John never encountered this wisdom
b. John never encountered the wisdom of Socrates.

- (28) a. John never encountered the belief that the devil exists.
b. The belief that the devil exists is unfounded.
c. John lacks the belief that the devil exists.
d. The belief that devil exists is widespread.

- (29) a. John never developed the desire to become rich.

- b. The desire to become rich is not inborn.
- c. John lacks the desire to become rich.
- d. The desire to become rich is widespread.

2.4. Kinds vs properties: an ontological account

Kinds crucially inherit properties in one way or another from their bearers, properties are ascribed properties directly

Aristotle's notion of 'secondary substance

Kinds of tropes: secondary tropes

Why?

kinds are not bearers of properties, in certain sense of property

derived applications of predicates

(30) a. $[P]^{w,t}(d, k) = 1$ iff $\forall d' [d' I_{w,t} k \rightarrow [P]^{w,t}(d, d') = 1]$ if P is a transitive individual-level predicate.

b. $[P]^{w,t}(d, k) = 1$ iff $\exists d' (d' I_{w,t} k \ \& \ [P]^{w,t}(d, d') = 1)$ if P is a transitive stage-level predicate.

(31) a. John needs honesty.

b. John needs an instance of honesty.

(32) needs(John, int(honesty))

(33) $[V]^{w,t}(d, k) = 1$ iff $[V]^{w,t}(d, \text{int}(k)) = 1$ if V is a transitive intensional verb.

(34) $[\textit{exist}]^{w,t}(k) = 1$ iff $[\textit{exist}]^{w,t}(\textit{int}(k)) = 1$.

(35) a. Honesty is rare.

b. RARE p d $\exists d' (\textit{honesty}(d, d') \ \& \ \textit{AT}(d, p))$

(36) c. $[\textit{rare}]^{w,t}(k) = 1$ iff RARE p d $(d I k \ \& \ \textit{At}(d, p))$

- (37) a. $[V_{\text{ext}}]^{w,t} = \{ \langle d, k \rangle \mid \exists d' (d I_{w,t} k \ \& \ [V]^{w,t}(d, d') = 1) \}$
 b. $[V_{\text{ext}}]^{w,t} = \{ \langle d, k \rangle \mid \text{Gn } d' [d' I_{w,t} k] [V]^{w,t}(d, d') = 1 \}$
 c. $[V_{\text{ext}}]^{w,t} = \{ \langle d, k \rangle \mid [V]^{w,t}(d, \text{int}(k)) = 1 \}$

(38) $\mathbf{D} = \mathbf{N} \cup \mathbf{O}$ (where $\mathbf{N} \cap \mathbf{O} = \emptyset$)

(39) $[-\textit{thing}] = \mathbf{N} \cup \mathbf{O}$

$[\textit{thing}] = \mathbf{O}$

(40) For an entity $d \in \mathbf{N}$, $[\textit{property}]^{w,t}(d) \in \mathbf{O}$.

properties of properties:

- (41) a. The property of being pure is negative.
 b. Purity is negative
- (42) a. The property of being honest is complex.
 b. ?? Honesty is complex.
- (43) a. The property of being universally recognized is quantificational.
 b. ?? Universal recognition is quantificational.
- (44) a. The property of being poor is vague.
 b. ?? Poverty is vague.
- (45) a. The property of fatherhood is relational.
 b. ?? Fatherhood is relational.
- (46) a. The property of being a round circle is contradictory.
 b. ?? Round circles are contradictory.

(47) For an entity $d \in \mathbf{N}$, $[\textit{property}]^{w,t}(d) \in \mathbf{O}$.

property as a reifying noun:

- (48) a. Courage is an admirable property.
 b. Friendliness is my favourite attribute.
 c. Honesty is a virtue.

- (49) a. Ordinariness is a property that is interesting.
 b. Tallness is a vague property.
- (50) a. admirable property ($\text{reif}([\text{courage}])$)
 b. the property of courage
 c. [*Courage is an admirable property*] = $\lambda x[\text{admirable}([\text{property of}(x))]([\text{courage}]) = [\text{admirable}([\text{property of}]([\text{courage}])$

identity statements with kinds vs with properties:

- (51) a. Men who breathe are men who live. (contingently true)
 b. The property of being a man who breathes is the property of being a man who lives.
 (necessarily false)
- (52) a. Water is H₂O. (necessarily true)
 b. The property of being water is the property of being H₂O or being a round circle.
 (rather false)

Summary

properties:

no parts, possibly constituted by subproperties, logical structure
 having property = having entire property
 exists in any world , or exists independently of worlds

kinds:

entities across worlds and times
 exist in those in which they are instantiated