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Tropes in Natural Language Semantics and Philosophical Explanation

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Introduction

Terms for tropes

Particularized property, property instance, abstract particulars (the recent tradition)

Mode, accident (the older tradition)

Aim of the talk

Overview of the role of tropes in natural language semantics and in metaphysics

Plan of the talk

- The notion of a trope
 - Tropes: their roles in ontology and their properties
 - Roles of tropes in the semantics of natural language
 - Further roles of tropes in philosophy:
 1. Tropes in statements of apparent relative identity
 2. Relational tropes as a way of avoiding Bradley's regress
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1. The notion of a trope

1.1. General roles of tropes

- Objects of perception (Williams 1953, Lowe 2008)
- Relata of causal relations (Williams 1953)
- Qualia, sensations, appearances (Williams 1953)
- As truthmakers: Mulligan et al.,(1984), Moltmann (2007)

1.2. Two traditions regarding tropes

[1] The olde, Aristotelian tradition

Four-category ontology

Lowe (2006), Woltersdorff, Moltmann (2004a, b, 2013d)

Individuals (substances) – secondary substances

Modes (tropes) – quantities

[2] The recent tradition

Reductionist one-category ontology

Williams (1953), Bacon (1995), Campbell (1990)

Tropes as the only fundamental category

- Individuals as bundles of compresent tropes
- (Natural) properties as classes of (exactly) similar tropes

1.3. Tropes and universals

Two kinds of terms referring to properties as universals (Moltmann 2004a, b, 2013d):

[1] Bare adjective nominalizations: *wisdom*

[2] Explicit property-referring terms: *the property of being wise / of wisdom*

Ad [1] :

Properties as

- Sets of tropes (Williams 1953, Campbel 1990, Bacon 1995)
- Kinds of tropes (Moltmann 2004)
- Pluralities of actual and possible tropes (Moltmann 2013d)

Ad [2]:

- Properties as reification of concepts or predicates

1.3. Examples of tropes and of trope-referring terms

Qualitative tropes

- (1) a. the wisdom of Socrates
 b. the originality of the book
 c. the elegance of the dress

Quantitative tropes (Campbell 1990, Moltmann 2009, 2013c)

- (1) d. the number of planets
 e. the weight of the book
 f. the height of the building
 g. the temperature in the room `

Tropes with variable objects as bearers (Moltmann 2013d, 2020)

- (2) a. the originality of the book John wants to write
 b. the simplicity of the dress Mary needs for the occasion
 c. the wisdom of the director the institutes should hire
 d. the number of people that fit into the car
 e. the height of the desk John needs
 f. the length of the time John might be away
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2. Common assumptions about tropes and linguistically manifest properties of tropes

2.1. The relation of a trope to its bearer

A trope as a particular feature of a real object is a concrete as its bearer.

Dependence of a trope on a bearer (ontological dependence)

- A trope exists in a world w at a time t only if its bearer exists in w at t .
- Two tropes are identical only if their bearers are identical.

No, no bearer uniqueness: the brownness of the statue = the brownness of the clay
 (Moltmann 2013a).

2.2. Similarity relations

Tropes instantiating the same property are similar.

Tropes instantiating the same natural property are exactly similar.

Well-reflected in natural language:

The same as expressing similarity

- (4) a. The quality of this fabric is *the same as* the quality of that fabric.
 b. The impact of John's book was *the same as* the impact of Bill's book
 c. The number of women is *the same as* the number of men
 d. The height of the desk is the same as the height of the lamp.

The is of numerical identity

- (5) a. ?? The quality of this fabric is the quality of that fabric.
 b. ? The impact of John's book was the impact of Bill's book.
 c. ?? The number of women is the number of men.
 d. ?? The height of the desk is the height of the lamp.

2.3. Standard properties of concreteness

Tropes as objects of perception

(in fact as the immediate objects of perception, cf. Williams 1953, Campbell 1990, Lowe 2008):

- (6) a. John noticed the simplicity of the dress.
 b. John observed Mary's politeness.
 c. John noticed the small number of women that were present.

Tropes as relata of causal relations

- (7) a. The heaviness of the bag she was carrying made Mary exhausted.
 b. The number of passengers caused the boat to sink..
 c. The weight of the lamp caused the table to break.

More problematic:

The spatio-temporal location or extension of tropes (Moltmann 2019):

- (8) a. John's happiness lasted only a year.
 b. ?? John's happiness was in Munich

c. ?? John's heaviness on the table

2.4. Other properties of concreteness

Description-independence

Tropes generally have an internal structure 'below' the description used to refer to them (Moltmann 2007).

(9) John described Mary's beauty.

Contrast to states and facts:

(10) a. ?? John described (the state of) Mary's being beautiful.

b. John compared Mary's beauty to Sue's beauty.

c. ?? John compared (the state of) Mary's being beautiful to (the state of) Sue's being beautiful.

Measurable extent

Tropes may have a measurable extent; facts / states / states of affairs cannot have a measurable extent.

(11) a. Mary's happiness exceeds Bill's.

b. * The fact that Mary likes Bill exceeds the fact that Mary is tall.

c. * The state of Mary's liking Bill exceeds the state of Mary's being tall.

Tropes referred to with the help of predicates, however determinable, unspecific, quantificational, are always maximally specific, but not so states, fact, or states of affairs. There are no determinable tropes.

2.5. Quantitative comparison and evaluation of tropes

Tropes share properties of quantitative comparison with their bearers.

Predicates of quantitative comparison: *exceed* and *equal*, *high*

(12) a. John exceeds Mary in eagerness.

b. John equals Mary in sloppiness.

c. The eagerness of John exceeds the eagerness of Mary.

d. The sloppiness of John equals the sloppiness of Mary.

Contrast to properties:

- (13) a. ?? The property of being very eager exceeds the property of being not so eager.
 b. ?? The property of being extremely sloppy exceeds the property of being somewhat sloppy.

Quantitative tropes:

- (14) a. The height of John exceeds / equals the height of Mary.
 b. John exceeds / equals Mary in height.
 (15) a. The number of men exceeds the number of women.
 b. The men exceed the women in number.
 c. The number 13 ?? exceeds / ok is greater than the number 8.
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3. Tropes in the semantics of adjectives

The range of adjectival modifiers (more or less) matches the range of predicates applicable to trope-referring NPs:

- (16) a. John is enormously wealthy.
 b. John's wealth is enormous.
 (17) a. Mary is highly intelligent.
 b. Mary's intelligence is high.

Tropes as implicit arguments of adjectives:

Davidsonian semantics of adjectives and adjectival modifiers

- (18) a. John is highly intelligent
 b. $\exists t(\text{intelligent}(t, \text{John}) \ \& \ \text{high}(t))$

Neo-Davidsonian analysis of adjectives and adjectival modifiers

- (19) a. John is highly intelligent
 b. $\exists t(\text{intelligent}(t) \ \& \ \text{high}(t) \ \& \ \text{BEARER}(\text{John}, t))$
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4. Presentational pronouns and reference to tropes

Tropes are involved in the semantics of presentational pronouns, pronouns occurring in the subject position of identificational sentences (Moltmann 2013a, b).

What are presentational pronouns?

Neutral pronouns *this*, *that* or *it* in the subject position of identificational sentences:

(20) This is Mary.

In other languages: *ce* in French, *das*, *dies*, *es* in German

(21) a. C'était une femme.

 this (neut) was a woman

 b. Das / Das da ist eine Frau.

 this (neut.) is a woman

Presentational pronouns are not referential NPs

[1] Coordination

(22) a. * Mary and that are a beautiful couple.

 b. * Bill or that was the chairman of the session.

Ordinary neutral demonstratives:

(23) I bought this and the cake. (pointing at a melon)

[2] Incompatibility with ordinary variables

(24) a. * That, whom I first did not recognize, was John.

 b. * Everyone except that came to the party.

Ordinary neutral demonstratives:

(25) Everything except this is poisoned. (pointing at a cake)

Ordinary variables in postcopula position of identificational sentences:

(26) Who was that e?

[3] The interpretation of modals

Presentational pronouns allow only for an epistemic interpretation of a modal:

(27) a. Mary could be a gymnast. (circumstantial or epistemic modal)

 b. This could be a gymnast. (epistemic modal only)

Identificational sentences require either a sortal or a proper name in postcopular position:

(28) a. That is a beautiful woman.

 b. * That is beautiful. (looking at a woman)

Neutral 'ordinary' pronouns not subject to the constraint:

(29) That is red (looking at a surface).

Semantics of identificational sentences

Presentational pronouns make reference to tropes, not properties as universals.

Properties may have many instances, but *this* and *that* can only make reference to a presentation of a unique individual.

(30) * Did you see that? That was Mary and it also was Sue.

(looking at a single blue figure in the distance)

The involvement of tropes, as the objects of direct perception:

(31) a. (introducing someone:) This is my sister. (trope: visual appearance)

b. (looking at a figure in the distance:) That is John. (trope: visual appearance)

c. (talking on the phone:) This is me. (trope: sound of the voice)

Cases where presentational *this* and *that* are not possible won't involve tropes:

(32) a. (pointing at a house and meaning Mary, who is in the house:) This is Mary.

b. (pointing at a dress and meaning Mary, who owns the dress:) This is Mary.

c. (a man talking and Mary being what the man is talking about:) This is Mary.

The formal semantics of identificational sentences

By using a presentational pronoun, the speaker refers to a trope.

But the presentational pronoun as subject of an identificational sentence does not have the trope as its denotation:

(33) * That feature is Mary.

Two-stage denotation of presentational *this* (or *that*)

(34) a. The referential denotation of presentational *this*

For a context of utterance c and a world w ,

$[this]^{c,w}$ = the trope that the speaker of c refers to with the utterance of *this* in c .

b. The presentational denotation of presentational *this*

$[this]^{c,w}$ = the function that maps any conceivable world w' , compatible with what is known in w , to the sum of entities that according to w' are the bearers of $[this]^{c,w}$

c. $[This\ is_{ident} Mary]^{c,w} = 1$ iff $[this]^{c,w}(w) = [Mary]^{c,w}$.

4. Other philosophical roles of tropes

Bradley's regress (McBride 2025):

If a relation holds between a and b, should not another relation ensure that a enters R and b enters R?

Take R to be a relational trope, which already depends ontologically on a and b.

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