

Eidos Conference

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The Importance of Relational Tropes

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1. Basic properties of tropes

the term 'trope': Williams (1953)

contemporary alternatives: 'abstract particulars' (Campbell), 'attribute instances' (Mertz), 'modes' (Lowe), moments (Mulligan, Simons, Smith 1984), 'cases' (Woltersdorff)

historical alternatives: accidents (Aristotle), modes (medieval and upwards),

some 'standard' examples:

the redness of the apple, the beauty of the picture, the gentleness of John

the redness of the apple, the wisdom of Socrates as trope-referring terms

medieval philosophers, Strawson (1959), Woltersdorff (1970)

temporal / spatial location:

(6) John's happiness lasted only a year.

object of perception:

(7) a. John noted the redness of the apple.

b. John observed Mary's haste.

object of causal relation:

(8) The heaviness of the bag she was carrying made Mary exhausted.

other trope-referring terms

the quality of the paper, the degree of Mary's happiness, the extent of John's anger

the personal relation between John and Mary, the difference between John and Mary

the diplomatic relations among the countries, the number of planets

more generally: abstract N + referential complement → trope-referring term

two kinds of intuitive descriptions of tropes:

[1] concrete manifestations of properties in individuals, ‘concretized properties’,
‘particularized properties’

[2] ‘abstract particulars’: the thing you get when you abstract away from all the properties an individual has except for one, if you attend to only one of the properties an object has

tropes in contemporary (as well as ancient and medieval) metaphysics:

primitives, not defined in terms of properties and individuals

varieties of tropes:tropes based on adjectival properties:

the redness of the apple, the roundness of the object

tropes based on sortal predicates:

John’s fatherhood

tropes with abstract bearers

the roundness of the circle

relational tropes:

(1) a. the love between John and Mary

b. John’s anger at Mary

collections of tropes:

(2) a. John’s anger and Bill’s anger are very different.

b. John compared two things, the beauty of the picture and the beauty of the landscape.

tropes instantiating complex properties:

(3) John’s mean and unjust behavior toward Mary

higher-order tropes:

(4) a. the unexpectedness of the beauty of the landscape

b. the unusualness of the lightness of the stone

higher-order relational trope:

(5) the difference / similarity between the beauty of the picture and the beauty of the landscape

relation between tropes and predicates:

properties as expressed by predicates (‘abundant properties’): may be indeterminate, unspecific, quantificational, disjunctive e.g. *red, nice, strange, unusual, irregular, dirty*

tropes: are entities *in* the world

thus are instances or determinate, maximally specific, nonquantificational properties

→ are instances of ‘sparse’, ‘natural’ properties

example: the redness of the apple: not the instantiation of just redness in the apple, but the instantiation in the apple of whatever the particular shade of red is that the apple has

Tropes vs. Qua objects (Fine)

qua object: John qua being a father

trope: John’s fatherhood

(21) a. John is admirable as a father, but not as a colleague

b. John as a father is admirable.

(22) a. John is young as a father

b. John is not young as a high school student.

c. John as a father is young.

Qua objects as entities derived from objects and properties:

(i) A qua object o qua P exists in w at t iff o is P in w at t

(ii) A qua object o qua P is identical to a qua object o' qua P' iff $o = o'$, $P = P'$.

(iii) A qua object o qua P that exists at w and t has a property Q iff Q holds of o at w and t and Q ’s holding of o at w and t is based on o being P .

alternative view:

qua object obtained from an object and a trope: o qua bearing t

What distinguishes a qua object from a trope?

ontological ‘focus’:

trope: focus on the property

qua object: focus on the bearer

2. Natural language predicates and tropes

Tropes referred to with predicates, however determinable, unspecific, quantificational, are always maximally specific: can be compared, described, etc in maximal specificity

Case 1: determinate – determinable properties

Do the following refer to identical tropes?

the redness of the apple - *the color of the apple*

the form of the figure - *the rectangularity of the figure*

potential tests:

- (34) a. The redness of apple 1 is the same as the redness of apple 2.
 b. The color of apple 1 is the same as the color of apple 2.
- (35) a. The form of figure 1 is better than the form of figure 2.
 b. The rectangularity of figure 1 is better than the rectangularity of figure 2.
- (36) a. The color of the leaf is unusual.
 b. The redness of the leaf is unusual.

Case 2: polar adjectives

Do the following terms refer to identical tropes, supposing they both refer?

John's weakness - *John's strength*

the darkness of the room - *the lightness of the room*

The crucial intuitions:

the occasion: analyse comparatives without using degrees:

- (37) a. John is happier than Mary.
 b. John's happiness exceeds Mary's happiness.
- (38) a. The cellar is darker than the kitchen.
 b. The darkness of the cellar exceeds the darkness of the kitchen.

The paraphrase seems correct, but this *despite* the standard view of tropes as entities with various sorts of property dimensions.

(38b) cannot be read as:

- (39) The darkness of the cellar exceeds the darkness of the kitchen
 - because the cellar is larger than the kitchen
 - because the cellar has been darker for longer than the kitchen
 - because the cellar's darkness is more typical / expected / desired than the darkness of the kitchen.

➔ single reading of the *exceed*-predicate

The problem of direction:

- (40) a. John is stronger than Mary.
 b. John's strength exceeds Mary's strength.
- (41) a. Mary is weaker than John.
 b. Mary's weakness exceeds the weakness of John.

Suppose John is kind of weak and also John is kind of strong, i.e.

John's weakness = John's strength, and so for Mary:

- (42) a. John's strength exceeds Mary's strength.
 b. Mary's weakness exceeds John's weakness.
 c. John's weakness is John's strength.
 d. Mary's weakness = Mary's strength.
 e. John's weakness exceeds Mary's weakness.

Same behaviour of adjectives of intensity:

(43) John's strength is great.

Mary's strength is negligible.

John's strength exceeds Mary's strength.

(44) Mary's weakness is great.

John's weakness is negligible.

Mary's weakness exceeds John's weakness.

Summary:

[1] Adjective nominalization restricts trope to one dimension of comparison with 'exceed':
 the extent to which the property is instantiated

[2] Adjective nominalization gives direction of comparison: orders tropes with respect to the
 extent to which they instantiate the property in question.

Account:

not reference to standard tropes, but reference to either relational tropes or qua tropes:

[1] relational tropes

Mary's weakness: the instantiation of 'weak' in the physical condition of Mary

Mary's strength: the instantiation of 'strong' in the physical condition of Mary

- what is a greater / better instantiation of a property than another?

- how to explain application of exceed relation?

[2] qua tropes

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

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

allows explanation of the application of exceed-relation (property inheritance for qua objects)

strong: expresses a relation between tropes

John's strength:

t: truthmaker of *John is strong* and of *John is weak*.

John's strength = t qua 'strong',

t qua $t < t'$, $t < t''$, $t < t'''$, $t^* < t$, $t^{**} < t$,

John's weakness = t qua 'weak'

t qua $t > t'$, $t > t''$,

Alternative to qua tropes: *order-constituted tropes*.

Order-constituted tropes complex tropes consisting of a simple trope t (such as a physical condition) as well as relational tropes, instances of the 'greater than'-relation in t and any other possible trope of the same type.

for *c* the relevant operation of composition:

(32) [*John's strength*]^{w,i} = $c(\{t \mid \langle t, \text{John} \rangle \in [\textit{strong}]^{\text{w,i}}\} \cup \{r \mid \exists t'(t' \in f(\textit{strong})(w, i) \ \& \ r = f(\leq, t, t', w, i) \vee r = f(\leq, t', t, w, i))\})$

Also for other cases

the whiteness of the wall, the color of the wall

(1) a. The whiteness of the wall exceeds the whiteness of the ceiling.

b. * The color of the wall exceeds the color of the ceiling.

Also the form of x vs the roundness of x

Color, form: expresses property of tropes, denotes set of all color / form tropes

Whiteness, roundness: expresses relation between tropes

Predicates distinguishing the two kinds of tropes:

exceed, evaluative predicates: *unusual, negligible, better than*,

two kinds of 'adjective' nominalizations:

two kinds of nominalizations:

(6) a. John's heaviness, John's lightness.

b. John's weight.

(7) John's strength, John's weakness.

(8) a. the building's tallness, the building's smallness.

b. the building's height

observation:

both the building's tallness and the building's height refer to tropes (not just degrees or alike):

(9) a. John noticed the building's tallness / the building's height.

b. The building's tallness / height was the cause of Mary's distress.

taller – smaller, stronger - weaker:

compare tropes occupying the entire scale of strength / weakness

John's tallness exists → John is tall

John's smallness exists → John is small

John is tall: there is a trope of height greater than the contextual standard

John is small: there is a trope of height smaller than the contextual standard

John's tallness: John's height trope as something greater than the standard

John's height qua being greater than the contextual standard (qua trope)

Or:

John's tallness: the instantiation of the 'is greater than the contextual standard' property in

John's height (second-order trope based on relational property)

Further observations about *John's tallness*:

1. No degree predicates:

(10) * John's tallness is two meters.

By contrast:

(11) John's height is two meters.

2. No reference to trope-like thing with variable manifestations:

(12) a. John's tallness has changed.

b. John's height has changed.

3. No evaluative predicates, or not in the same way:

(13) a. John's tallness is unusual.

b. John's height is unusual.

Is John's tallness a second-order trope or a qua trope?

As a qua trope:

Should have degree properties

- (14) a. ? John's height as something above standard is two meters.
 b. ? John's height as something above standard has changed.
 c. John's height as something above standard is unusual.

Thus: John's tallness should better be viewed as a second-order trope

Adjective modifiers:

- (15) a. John is unusually tall
 c. John is noticeably tall.
 d. John is one meter tall.

tall(pos)(C): relation between second-order tropes and individuals

tall (+ measure phrase): relation between simple trope and individual

quasi-relational tropes

Relational tropes that obtain between simple tropes and a standard should have properties that relate to both the simple trope and the standard, it is concrete just in case its bearers are concrete. But a standard, being a type, is not concrete, and thus the relational trope should not be either. But the referent of a positive nominalization such as *John's tallness* is as concrete as John (it can be observed and have causal effects).

Also the location of the referent of a positive nominalization is, intuitively, quite simply the location of the simple trope; by contrast, it is much more problematic what the location of a relational trope should be that obtains between a simple trope and a standard.

the referent of a positive nominalization as quasi-relational trope a nonrelational trope
 instantiating a complex object-dependent property, the property of meeting or exceeding the standard.

Inherits the concrete-abstract status as well as its spatio-temporal location only from the one bearer, the particular trope, not the standard.

Also for *John's fatherhood* or *Bill's responsibility*.

denotation of a positive nominalization of an adjective A, $A_{\text{nom-pos}}$:

$$(72) [A_{\text{nom-pos}}]^{c,w,i} = \{ \langle t, x \rangle \mid \exists t' (B(x, t') \ \& \ t' \in c(A)(w, i) \ \& \ t = f(t', \lambda y [y \geq_A \text{standard}(c(A), c)], w, i)) \}$$

7. Tropes and Events

7.1. Ontological parallels between tropes and events

1. particulars (as opposed to universals)
2. generally concrete: in space and time, causal relata, perceivable
3. internal structure, fully specific (on Davidson's account, but not on Kim's)

same observations with events vs. facts

(24) a. John described Mary's walk home.

b. ?? John described the fact that Mary walked home.

(25) a. John compared Mary's walk to Bill's walk.

b. ? John compared the fact that Mary walked home to the fact that Bill walked home.

(26) a. John watched Mary's walk home.

b. ?? John watched the fact that Mary walked home.

4. mereology of events, mereology of tropes

(27) All of the war took place in two cities.

5. apparent lack of bearer uniqueness

(28) a. the sharpening of the knife = the sharpening of the blade of the knife.

b. the sharpness of the knife = the sharpness of the blade of the knife

7.2. Semantic parallels between tropes and events

1. introduced by predicates
2. arguments of modifiers (adjectival: tropes, adverbial: events)
3. referents of nominalizations
4. extended Davidsonian semantics seems applicable to tropes as to events:
events as implicit arguments of verbs, tropes as implicit arguments of adjectives
adverbials as predicates of events, adjective modifiers as predicates of tropes

(29) a. John walked quickly.

b. $\exists e(\text{walk}(e, \text{John}) \ \& \ \text{quickly}(e))$ (Davidson)

c. $\exists t(\text{red}(t, \text{the rose}) \ \& \ \text{deeply}(t))$

(30) a. [*the rose's deep redness*] = $t[\text{red}(t, \text{the rose}) \ \& \ \text{deep}(t)]$

b. [*John's quick walk*] = $\iota e[\text{walk}(e, \text{John}) \ \& \ \text{quick}(e)]$

7.3. Tropes as an ontological category comprising events -- a widespread view

Three possibilities:**[1] events as tropes involving a complex property**

events as tropes based on a ‘dynamic property’:

the property being P at t and Q at t’, for subsequent times t and t’ and contrary properties P and Q

How does this fare with our ‘linguistic’ intuitions?

(31) a. John’s happiness and subsequent unhappiness

b. John’s loss of happiness

c. John’s becoming unhappy

the problem:

predicates applicable to events, but not to tropes based on dynamic properties:

(32) a. John’s loss of happiness was sudden / was unexpected.

b. * John’s happiness and subsequent unhappiness was sudden / was unexpected.

[2] events as collections of ‘tensed’ tropes

the collection of two tropes with the same bearer one involving ‘being P at t’ and one involving ‘being Q at t’ for contrary properties P and Q

the problem:

collective predicates may be true of collections of tropes, but not of events:

(33) a. John’s happiness and subsequent unhappiness were equally surprising / resembled each other / lasted the same number of years.

b. * John’s loss of happiness equally surprising / resembled each other / lasted the same number of years.

[3] events as transitions among tropes

Mertz (1996): Events are relational tropes: instantiations of temporal or causal relations in two or more tropes

John’s becoming unhappy: the transition of John’s being happy to John’s being unhappy

John’s killing of Bill: The causation of Bill’s being dead by John’s act

further differences between events tropes: comparative contexts

events: not a single exceed-relation:

(45) a. John’s walk exceeds Mary’s walk.

b. John's eating of the apple exceeded Mary's eating of the apple.