

# An adverbialist solution to the problem of temporary intrinsic

## Abstract

I propose a new semantics of adverbs as predications of cases of the exemplification relation, defend this proposal both semantically and ontologically and apply it to solve the problem of temporary intrinsic.

## Three accounts of adverbs

Consider:

- (i) Maria stabbed Sam violently.

What are we to make of “violently”?

**First theory:** adverbs are operators on intensions (Montague, Parsons 1970, Thomason/Stalnaker 1973, Kamp 1975):

- (2) ((violently)stabbed)(Maria,Sam)

Advantage: works also for adjectives. But

- not all adverbs map intensions of predicates to subsets of these intensions: negators, neutralizers, enlargers and fictionalizers.
- in the case of iterations the detachment principle licenses not all of the intuitively valid inferences.
- we do not individuate intensions fine-grainedly enough.

**Second theory:** adverbs are predications of specific properties (Reichenbach 1947):

- (3)  $\exists f(f \text{ is a stabbing-property} \wedge f(\text{Maria,Sam}) \wedge f \text{ is violent})$

but

- properties are not violent
- the account is parasitic on underlying events

**Third theory:** adverbs are predications of events (Ramsey, Reichenbach 1947, Davidson, Parsons 1990):

- (4)  $\exists e(e \text{ is a stabbing} \wedge e \text{ is by Maria} \wedge e \text{ is of Sam} \wedge e \text{ is violent})$

The account is general:

- (5) Cesar died.

is analysed as:

- (6)  $\exists e(e \text{ is a dying} \wedge e \text{ is by Caesar} \wedge e \text{ culminates before now})$

It handles conjunctions of adverbs, analysing “Maria stabbed Sam violently with a knife” as

- (7)  $\exists e(e \text{ is a stabbing} \wedge e \text{ is by Maria} \wedge e \text{ is of Sam} \wedge e \text{ is violent} \wedge e \text{ is with a knife})$

which entails both “Maria stabbed Sam violently” and “Maria stabbed Sam with a knife” and is not entailed by their conjunction.

## Some problems with underlying events

1. Some adverbs modify adverbs rather than verbs.
2. Not all iterations of adverbs have the detachment property. In particular, 'attributives' don't.  
From

(8) She walked deliberately slowly.

we can infer

(9) She walked slowly.

but not

(10) She walked deliberate.

3. The contrast class of adverbs does not always seem to be a set of *events*:

(11) James Bond, freshly captured, cleverly stammered stupidly to his interrogators.

4. Not all iterations of adverbs can be analysed as conjunctions of predications of events.

(12) John painstakingly wrote illegibly.

seems different *both* from (13) and from (14):

(13) John wrote painstakingly and illegibly.

(14) John wrote painstakingly and John wrote illegibly

5. Aboutness: Granted that "Sam stabbed Maria violently" and "The stabbing of Maria by Sam was violent" are about the very same event, should we say the same of "Stabbing Maria was a violent thing for Sam to do", "It was violent of Sam that he stabbed Maria" and even of "Sam the stabber of Maria was violent"?
6. Identity conditions of events: If Kim's buying to Sheenan is quiet and Sheehan's selling from Kim is noisy, are the selling and the buying two different events?

## Events and states of affairs

Two versions of truth-maker theory:

1. the proposition that  $p$  is true because the fact that  $p$  obtains
2. the proposition that  $p$  is true because of  $t$

Third version: accept both truth-making and fact-making. Some event makes the fact that  $p$  obtain which makes it true that  $p$ .

## Tropes and cases

Two meanings of "trope":

1. a non-substantial temporal particular (a 'moment'), rigidly depending on its bearer
2. a case or unit-property, abstract and untemporal

## Cases of exemplification

Cases allow us to keep as much as possible of the power and flexibility of the underlying events account while including also subject-oriented and sentential adverbs and being more tolerant with respect to the identity conditions of the entities quantified over

Let us take adverbs to be modifiers of particular cases of the exemplification relation:

$$(15) \quad \text{ex}_1(\langle \text{Maria, Sam} \rangle, \chi \text{ stabs } \xi) \wedge \text{ex}_2(\text{ex}_1, \chi \text{ is violent})$$

We keep the account of modifier conjunction. “He buttered the toast slowly and meticulously” is (16) and different from “He buttered the toast meticulously slowly” (17):

$$(16) \quad \text{ex}_1(\langle \text{he, the toast} \rangle, \chi \text{ butters } \xi) \wedge \text{ex}_2(\text{ex}_1, \chi \text{ is slow}) \wedge \text{ex}_3(\text{ex}_1, \chi \text{ is meticulous})$$

$$(17) \quad \text{ex}_1(\langle \text{he, the toast} \rangle, \chi \text{ butters } \xi) \wedge \text{ex}_2(\text{ex}_1, \chi \text{ is slow}) \wedge \text{ex}_3(\text{ex}_2, \chi \text{ is meticulous})$$

Thematic relations are relational properties of the cases of the exemplification relation:

$$(18) \quad \text{ex}_1(\langle \text{Maria, Sam} \rangle, \chi \text{ stabs } \xi) \wedge \text{ex}_2(\text{ex}_1, \chi \text{ is violent}) \wedge \text{ex}_3(\langle \text{ex}_1, \text{knife} \rangle, \chi \text{ is with } \xi)$$

“He ran from  $a$  to  $b$ ” is analysed as (19) and “He ran from  $a$  and to  $b$ ” as (20):

$$(19) \quad \text{ex}_1(\text{he, } \chi \text{ runs}) \wedge \text{ex}_2(\langle \text{ex}_1, a \rangle, \chi \text{ is from } \xi) \wedge \text{ex}_3(\text{ex}_1, b), \xi \text{ is to } \chi)$$

$$(20) \quad \text{ex}_1(\text{he, } \chi \text{ runs}) \wedge \text{ex}_2(\langle \text{ex}_1, a \rangle, \chi \text{ is from } \xi) \wedge \text{ex}_3(\text{he, } \chi \text{ runs}) \wedge \text{ex}_4(\text{ex}_3, b), \chi \text{ is to } \xi)$$

What about attributives? “She stabbed him surprisingly quickly” and “She stabbed him increasingly violently” are analysed as

$$(21) \quad \text{ex}_1(\langle \text{Maria, Sam} \rangle, \chi \text{ stabs } \xi) \wedge \text{ex}_2(\text{ex}_1, \chi \text{ is quick}) \wedge \text{ex}_3(\text{ex}_2, \chi \text{ is surprising})$$

$$(22) \quad \text{ex}_1(\langle \text{Maria, Sam} \rangle, \chi \text{ stabs } \xi) \wedge \text{ex}_2(\text{ex}_1, \chi \text{ is violent}) \wedge \text{ex}_3(\text{ex}_2, \chi \text{ is increasing})$$

Whenever a binary relation is exemplified, two relational properties are exemplified too: if  $a$  exemplifies  $F$ ,  $a$  has the property  $\lambda x(\text{ex}_i(x, F))$  and  $F$  has the property  $\lambda \phi(\text{ex}_i(a, \phi))$ . Whenever there is an instance or case of the exemplification relation  $\text{ex}_i$ , there are two relational cases  $\text{ex}_i^1$  and  $\text{ex}_i^2$ .

“James Bond cleverly stammered stupidly to his interrogator” becomes:

$$(23) \quad \text{ex}_1(\text{James Bond, } \chi \text{ stammers}) \wedge \text{ex}_2(\langle \text{ex}_1, \text{the interrogators} \rangle, \chi \text{ is to } \xi) \wedge \\ \text{ex}_3(\text{ex}_1^1, \chi \text{ is clever}) \wedge \text{ex}_4(\text{ex}_1^2, \chi \text{ is stupid})$$

Why not read “ $\text{ex}_3(\text{ex}_1^1, \xi \text{ is clever})$ ” as “Whoever stammered, was behaving cleverly” and “ $\text{ex}_4(\text{ex}_1^2, \xi \text{ is stupid})$ ” as “What James Bond did was done stupidly”?

If we do not want to identify the (slowly) heating up of the ball with the (fast) rotating, we have

$$(24) \quad \text{ex}_1(\text{the ball, } \chi \text{ heats up}) \wedge \text{ex}_2(\text{the ball, } \chi \text{ rotates}) \wedge \text{ex}_3(\text{ex}_1, \chi \text{ is slow}) \wedge \text{ex}_4(\text{ex}_2, \chi \text{ is fast})$$

If we want to identify them, however, we may still say:

$$(25) \quad \text{ex}_1(\text{the ball, } \chi \text{ heats up}) \wedge \text{ex}_1(\text{the ball, } \chi \text{ rotates}) \wedge \text{ex}_2(\text{ex}_1^1, \chi \text{ is slow}) \wedge \text{ex}_3(\text{ex}_1^1, \chi \text{ is fast})$$

## How time and tense enter into the picture

Are truth-making and fact-making temporal relations, relations that hold at some times but not others?

The truth-making relation is not, relating atemporal relata.

The fact-making relation, however, is temporal: at  $t$ , some event makes the fact that  $p$  obtain.

The ontological difference the A-theorists makes between past, present and future is located at the level of events: A-theorists and B-theorists differ with respect to whether present events make facts exist just in virtue of being present.

## An adverbialist solution to the problem of temporary intrinsics

The problem of temporary intrinsics, in a nutshell, is to explain why adding temporal qualifications makes it possible to consistently ascribe to one and the same thing contrary properties.

Three 'solutions':

1. "true-at $t$ ". Problem: does not satisfy the  $T$ -schema.
2. " $F$ -at- $t$ ". Problem: not incompatible properties, not intrinsic.
3. " $a$ -at- $t$ ". Problem: no particular undergoing the change.

Cases of the exemplification relation solve the problem neatly:

$$(26) \quad \text{For any } a \text{ and } t, \quad aF^*t \iff \text{ex}_1(a, F(\chi)) \wedge \text{ex}_2(\text{ex}_2 \text{ is at } t)$$

How are we to understand the relation of " $x$  at  $y$ " in terms of truth- and fact-making?

$$(27) \quad \text{For any } a \text{ and } t, \quad aF^*t \iff \exists e \text{ } e \text{ is at } t \text{ and } e \text{ makes it a fact that } a \text{ is } F$$

Whenever two successive intrinsic properties of some thing  $a$  are incompatible, different events will make these facts exist. The facts are incompatible because they cannot be made to exist by one and the same event. The temporal modification inside the state of affairs indicates the temporal location of the fact-making event and does not ascribe a temporal property to the atemporal fact.