

# Speaking of Events

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## Do Events Recur?

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### 1. Introduction

The idea that events can happen more than once is a familiar one. We often regret that something happened again (e.g., an accident at Kennedy airport) or we are surprised to see things happen again (e.g., the Jazz beating the Lakers four times in a row). But can we take this way of speaking literally? Do events recur in the strict sense of this term? This is the question I want to discuss.

There is a widely accepted view in ontology, called *particularism*, according to which statements about recurring events should be paraphrased as statements about particular events resembling each other in some way. I critically examine this position by comparing it with two proposals concerning how a literal understanding of recurrence might be achieved. Although these alternatives are not convincing in themselves, they suggest a way of restricting the particularist position: there may be a special category of basic events that actually recur in a literal sense. Admitting this exception to the particularist point of view means driving a wedge between ontological questions concerning the nature of events, on the one hand, and linguistic questions concerning our way of talking about events, on the other.

### 2. Events as Particulars: The Standard Approach

That events are unrepeatable particulars is the accepted view in the field. It is common ground both for those who favour a fine-grained principle of individuation, like Kim and Goldman, and those who individuate events in a more coarse-grained way, like Davidson (for a survey of these issues see Pfeifer 1989 or Stoeker 1992). Since all parties in this dispute agree that events cannot literally recur, it will do no harm if I concentrate on Davidson's theory as representative of the standard approach.

Davidson suggests that many of our ordinary language statements should be analysed as statements about events. Take, for instance, the sentence

New York Oxford  
Oxford University Press  
2000

- (1) John kissed Mary.

According to Davidson, this sentence expresses a statement not only about John and Mary but also about the kissing that is going on between them.<sup>1</sup> We can bring this out by introducing a quantifier for each entity involved. (The notation is taken from Parsons 1990):

- (2)
- $\exists e(e \text{ is a kissing} \wedge \text{subject}(\text{John}, e) \wedge \text{object}(\text{Mary}, e))$
- .

The advantage of this analysis becomes apparent when we consider adverbial modifications. John may kiss Mary timidly or passionately, he may kiss her in the morning or in the evening, and so on. In Davidson's analysis these adverbial modifiers become predicates, which are ascribed to the event in question. Thus the sentence

- (3) John kissed Mary passionately in the morning

is translated into our semiformal language as

- (4)
- $\exists e(e \text{ is a kissing} \wedge \text{subject}(\text{John}, e) \wedge \text{object}(\text{Mary}, e) \wedge e \text{ is passionate} \wedge e \text{ occurs in the morning})$
- .

It is worth noting that this analysis by itself does not prove the existence of events. It only links their existence to the truth conditions of sentences. Given that sentence (3) is true and given that (1) is a logical consequence of (3), the proposed analysis provides strong reasons for accepting events in our ontology. If the logical data can be explained otherwise, events may still turn out to be superfluous entities (see Horgan 1978; see also Thalberg 1985 for a response to this kind of attack on events).

It is not these worries that I want to pursue here, however, but a specific problem that arises with sentences like the following:

- (5) John kissed Mary three times.

Is the adverbial modification in (5) also to be represented by adding a conjunctive clause to (2)?

- (6)
- $\exists e(e \text{ is a kissing} \wedge \text{subject}(\text{John}, e) \wedge \text{object}(\text{Mary}, e) \wedge e \text{ occurs three times})$
- .

In Davidson's view (6) would be necessarily false because no event can satisfy the predicate occurring *three times*. If sentence (5) should come out to be true, Davidson needs a different kind of analysis. He suggests that "recurrence may be no more than similar, but distinct, events following one after another" (1970: 184). The same view about recurrence is proposed by Lombard (1986: 63ff, 2000) and in the following remark by Myles Brand: "for the particularist, locutions concerning event recurrence are best understood as locutions about events of the same type occurring" (1976: 143). Applied to our example, this means that we should distinguish as many different token events as there have been cases of kissing:

- (7)
- $\exists e_1 \exists e_2 \exists e_3 (e_1 \text{ is a kissing} \wedge \text{subject}(\text{John}, e_1) \wedge \text{object}(\text{Mary}, e_1) \wedge e_2 \text{ is a kissing} \wedge \text{subject}(\text{John}, e_2) \wedge \text{object}(\text{Mary}, e_2) \wedge e_3 \text{ is a kissing} \wedge \text{subject}(\text{John}, e_3) \wedge \text{object}(\text{Mary}, e_3) \wedge e_1 \neq e_2 \wedge e_1 \neq e_3 \wedge e_2 \neq e_3)$
- .

This analysis is again supported by the fact that John may kiss Mary three times in three different ways. Whereas his first kiss may be on the cheek, his second may be on the shoulder, and his third one on the lips. Ascribing the corresponding predicates to the three different events distinguished in (7), we get

- (8)
- $\exists e_1 \exists e_2 \exists e_3 (e_1 \text{ is a kissing} \wedge \text{subject}(\text{John}, e_1) \wedge \text{object}(\text{Mary}, e_1) \wedge e_1 \text{ is on the cheek} \wedge e_2 \text{ is a kissing} \wedge \text{subject}(\text{John}, e_2) \wedge \text{object}(\text{Mary}, e_2) \wedge e_2 \text{ is on the shoulder} \wedge e_3 \text{ is a kissing} \wedge \text{subject}(\text{John}, e_3) \wedge \text{object}(\text{Mary}, e_3) \wedge e_3 \text{ is on the lips} \wedge e_1 \neq e_2 \wedge e_1 \neq e_3 \wedge e_2 \neq e_3)$
- .

The question now is whether this kind of analysis will work in all cases. Davidson himself considers several hard cases for his theory (see 1970: 184f.). Take, for instance, the sentence

- (9) Jones bought a leopard, and Smith did the same thing.

This sentence is ambiguous because of two possible readings of 'the same thing': Jones and Smith may have bought two different animals or they may have bought the very same animal twice.<sup>2</sup> The following analysis might be suggested to make this ambiguity explicit:

- (10) a.
- $\exists x(z \text{ is the buying of a leopard} \wedge \text{subject}(\text{Jones}, z) \wedge \text{subject}(\text{Smith}, z))$
- .
- 
- b.
- $\exists x \exists z(x \text{ is a leopard} \wedge z \text{ is a buying of } x \wedge \text{subject}(\text{Jones}, z) \wedge \text{subject}(\text{Smith}, z))$
- .

But for Davidson, (10a) and (10b) are not correct readings of (9). These sentences suggest that Smith and Jones cooperated in performing one individual action, which is not what is meant by (9). To get at the real ambiguity in (9), we must first paraphrase it in the following way:

- (11) Jones and Smith did similar things: they bought something and what they bought was a leopard.

The interpretation of (11) depends on how we explain the similarity of their actions. Two cases of buying may be similar either because their objects are similar, or because their objects are identical. Thus the appropriate readings of (11), and hence of (9), are as follows:

- (12) a.
- $\exists x \exists y \exists z_1 \exists z_2 (x \text{ is a leopard} \wedge x \neq y \wedge z_1 \text{ is a buying of } x \wedge z_2 \text{ is a buying of } y \wedge \text{subject}(\text{Jones}, z_1) \wedge \text{subject}(\text{Smith}, z_2))$
- .
- 
- b.
- $\exists x \exists y \exists z_1 \exists z_2 (x \text{ is a leopard} \wedge y \text{ is a leopard} \wedge x = y \wedge z_1 \text{ is a buying of } x \wedge z_2 \text{ is a buying of } y \wedge \text{subject}(\text{Jones}, z_1) \wedge \text{subject}(\text{Smith}, z_2))$
- .

As this example shows, the trick is to distinguish the relevant respects in which events may be similar. This is not always so easy. Consider the sentence

- (13) He danced the waltz eight times.

This sentence is paraphrased by Davidson (1971: 192) as

- (14) The number of waltzes such that he danced them was eight.

This will not quite do. If our dancer danced eight different waltzes, (13) would be false and (14) would still be true. What we have to count is the number of *similar* waltzes that he danced. But when are two particular dances similar enough so that we can count them as dances of the same waltz? The similarity here might consist in nothing else but the intention of the dancer to do the same thing again. The particularist owes us an explanation of what *intending to do the same thing* means here.

Another problem for Davidson's analysis arises with such sentences as

- (15) A certain event happened exactly twice.

Sentences like this fit the particularist scheme only if the context of utterance provides additional information that could be added in a 'namely' phrase—for example,

- (16) A certain event happened exactly twice, namely, that John kissed Mary.

Davidson classifies sentences like (15) as exceptional cases, which are "less than clear or less than literal" (1971: 193). But in fact such cases are quite common. *John did it three times, Mary enjoyed it every time*, and so on. Do we understand these sentences only after tacitly completing them with information provided by the context of utterance? It seems that they tell us something about John and Mary even if we do not know from the context what exactly the pronoun *it* refers to.

Let me summarise these considerations. We have seen how natural language sentences can be analysed as sentences about events, whereby adverbial modifications provide the main reason for taking this approach. The standard analysis proceeds by adding events to the domain of quantification, where events are taken to be unrepeatable particulars. Sentences that apparently talk about repeatable events are paraphrased as sentences about event reduplications—that is, as statements about a number of different event particulars resembling each other in some respect (though without quantifying over respects). This strategy proves difficult in two sorts of cases: those in which it is hard to specify the similarity relation on which the paraphrase depends, and those in which context information is needed for getting the paraphrase started in the first place. Keeping these difficulties in mind, let us turn to some alternatives to the standard approach.

### 3. Events as Properties: Montague's Approach

What is the alternative to treating events as particulars? If they are not particulars, they are some sort of universal. The most common sort of universal are properties. So why not treat events as properties? This idea was first put forward by Richard Montague (1969).

Montague starts by distinguishing several kinds of events. First he considers what he calls *instantaneous generic events*. As the term 'instantaneous' indicates, he thereby means events that occur at a certain moment of time (or a short stretch of time), like a sunrise. The term 'generic', on the other hand, indicates that these events are repeatable. Events of this kind, Montague suggests, may be conceived as *properties of moments of time*: "Thus the event of the sun's rising will be the property of being a moment at which the sun rises, and [instantaneous, generic] events in general will form a certain class of properties of moments of time" (1969: 150).

According to this proposal, the occurrence of an event amounts to the exemplification of a certain property by a moment of time. Consequently, for an event to recur means that the same property is exemplified at (or by) different moments of time. Take, for instance, the property *being a moment of time at which the sun rises*. This property is exemplified again and again every day by some moment of time at each place on the Earth. That makes it a daily recurring event.

Apart from these generic events, Montague also introduces *instantaneous individual events*. One way of individuating events is to fix their date. Montague resists this move, however, because he does not want to rule out that, for instance, the individual sunrise of this morning may have occurred a minute earlier or later. This would be impossible if the moment at which an event occurs were part of the property that is exemplified at this moment.<sup>3</sup> But what else could an individual event be? Here is Montague's proposal:

I propose that the individual risings of *x* be identified, like other instantaneous events, with properties of moments of time, but in this case with the properties of a great degree of particularity, what we might regard as the various particular occurrences that constitute risings of *x*. (1969: 176)

Thus individual events are also properties, but properties of such a specificity that every single sunrise is to be identified with a different property. Does this imply that individual events are not repeatable? Not necessarily. The more specific a property is, the less likely that it is exemplified more than once. In the end, Montague suggests, it may be a matter of convenience whether we say that, at two different times, *two risings of x have occurred* or *that a single rising of x has occurred twice* (1969: 177).

What should we think of this theory? I have omitted here the formal apparatus that Montague uses for analysing our event talk in accordance with his theory. His intensional approach requires a much richer language than the simple language of first-order predicate logic used by Davidson. This may count as a disadvantage of his theory, but the use of intensional languages may be justified on independent grounds. The real difficulty with Montague's theory, I think, lies elsewhere: it threatens to conflict with our intuition that events are located in space and time. Properties are usually taken to be abstract entities that exist outside space and time. So how could a concrete event be identical with an abstract property?

In reply to this objection, Montague might deny one of its assumptions—namely, that events are located in space-time or that properties are not so located. But a better reply would be, I think, to make the theory consistent with these assumptions. This is the route taken by Roderick Chisholm.

#### 4. Events as States: Chisholm's Approach

Chisholm originally defended the view that events are a species of (abstract) states of affairs (1970, 1971). In the mid-1980s, however, he changed his theory in accordance with the intuition that events are located in space, and especially in time. I have discussed the development of Chisholm's views on events elsewhere (Brandl 1997); here I concentrate on his position as it is expounded in Chisholm (1985/86, 1989: ch. 16, 1990, and forthcoming).

The basic idea behind Chisholm's current theory can be put thus: let events be like properties, but properties that exist in space and time. These temporally (and perhaps also spatially) bounded properties Chisholm calls *states*. States are dependent on contingent things: they necessarily exist at a contingent substance and they vanish with their bearers. This makes them part of the concrete world. They have temporal and spatial location and they enter into causal relations. (See Chisholm 1985/86: 103; 1989: 152; 1990: 419, and forthcoming).

Still there is a very close relationship between properties and states, as can be seen from the following principle (Chisholm 1985/86: 99; 1989: 150):

- (17) For every  $x$ , there is the state  $x$ -being- $F$  if and only if  $x$  exemplifies being- $F$ .

This principle tells us that if, for instance, *redness* (the property of being red) is exemplified by a tomato, the tomato is in a state of which the tomato itself is a constituent. This state ceases to exist when the tomato changes its colour or when the tomato disappears. The colour itself, on the other hand, remains unaffected by any changes in the contingent world.

Now if states are distinguished from properties in this way and if events are identified with states, what happens with the idea of recurrence? In his earlier writings Chisholm made it a constraint on any acceptable theory of events that it should be "adequate to the fact of recurrence, to the fact that there are some things that . . . happen more than once" (1970: 15). Does Chisholm's present theory satisfy this constraint?

Chisholm tries to satisfy it by distinguishing, like Montague, between individual and generic events. He defines a generic event as the *content* of an individual event, that is, of a passing state of an individual thing. If a tomato is in the state of being red, the property of being red would be the content of this state. And this content, Chisholm assures us, is a repeatable generic event.

But isn't this just a terminological manoeuvre? As Chisholm notes himself, his theory is very close to Kim's property-exemplification view of events, which takes events to be particulars (Chisholm 1989: 155 n. 2; 1990: 426, n. 3). The only difference lies in the fact that Chisholm prefers tensed properties whereas

Kim makes use of moments of time. Of course, Chisholm can call certain properties generic events, but the real events in his theory, one would like to say, are the contingent states of things. And these do not recur.

Thus far our efforts to find a theory that allows us to take statements about recurrent events literally has not been successful. Either the proposed theory turned out to violate our intuitions about the spatiotemporal location of events or it threatened to collapse into a version of the particularist view. Before we retreat to this view, however, we should consider one final alternative.

#### 5. Events as Concrete Universals

If events are not particulars, they must be universals. But they need not be properties, as in Montague's or in Chisholm's theory. What other universals could they be?

Consider once more the category of states. Chisholm assumes that every state is a *one-time thing*. He justifies this by the metaphysical principle that *nothing is capable of two beginnings of existence* (1970: 17; 1989: 153; forthcoming). But why should we accept this principle? It has no better foundation than, for instance, the principle that no entity can exist at the same time at different places. This latter principle is thrown into doubt by the existence of masses. It is possible to conceive of masses, like water or gold, as a nonindividual stuff that exists wherever there is water or gold around. Similarly, generic events could exist in time and yet have more than one beginning, thus violating the principle Chisholm takes for granted. They would then belong, together with masses, to the category of *concrete universals*.

The concept of a concrete universal is a controversial one. In the case of masses it must be defended against a position that identifies masses with spatially discontinuous individuals, what Quine calls *scattered objects* (1960: §§19–20). I will not try such a general defence here. All I need, for the sake of argument, is the idea that masses may be a special kind of stuff, irreducible to the category of individuals. This idea is based on two mereological principles. On the one hand, individual things are divided into parts, where each part is a *different* individual. For instance, if you cut an apple in half, you get two new individuals. Masses, on the other hand, are divided into quantities, where each quantity is the very *same* mass. If you divide a pool of water, what you get is just water again. (The two pools are new individuals but not new masses.) This still leaves a lot of questions open, but it suffices for our present purposes. (For a deeper inquiry into the ontology of masses see Zimmerman 1995.)

Granted that masses could be concrete universals, could events be, too? In a remarkable passage Davidson attempts to show that "even if one allows only particular, unrepeatable events, then, it is possible to give a literal meaning to the claim that the same event occurs on two or more occasions." This is how it is supposed to go:

One way is this: events have parts that are events, and the parts may be discontinuous temporally or spatially (think of a chess tournament, an ar-

gunment, a war). Thus the *sum* of all my droppings of saucers of mud is a particular event, one of whose parts (which was a dropping of a saucer of mud by me) occurred last night; another such part occurred tonight. We need three events to carry this off, but they have the same ontological status. (1970: 184)

Davidson does not pursue this proposal any further, considering it as too obscure. "Is this strange event-sum", he asks, "really what we refer to when we say, 'The same thing happened again?'" (1970: 184). However, the obscurity of the proposal may result only from the particular examples Davidson uses. We simply do not know what it means to add one dropping of a saucer to another dropping of a saucer. And in the case of chess games, where such an addition makes sense, we do not get a larger event of the same kind but a completely new kind of event—namely, a tournament.

What one needs to make the parallel between generic events and masses plausible are *homogeneous* events; that is, events picked out by terms that satisfy the following two conditions: (1) if *P* applies to an entity *e*, then it also applies to the parts of *e*, and (2) if *P* applies to entities *e*<sub>1</sub> and *e*<sub>2</sub>, then it also applies to the mereological sum of *e*<sub>1</sub> and *e*<sub>2</sub>. Mass terms like 'water' and 'gold' satisfy these conditions (or conditions very similar to these; see Higginbotham 1994: 455 ff.). The question is this: Are there any event predicates that pass this test?

The only candidates that come to my mind are predicates like *growing*, *increasing*, *moving*, and so on. If something grows, that is an event each part of which is itself a case of growing. And if the temperature increases at different times or at different places, we can imagine the sum of these events as a more extensive increasing of temperature. This seems the closest we can get to homogeneous events.

What should we say about this concrete universal approach? I think it has several interesting consequences, partly vindicating and partly undermining the particularist viewpoint. First, in this approach recurrence turns out to be a quite rare phenomenon. Most of the events that we commonly talk about are not homogeneous and therefore cannot recur. Only a rather small number of events may be said to happen all the time at various places and times. Just as a great number of individuals are made up of few kinds of stuff, so a large number of individual events would be made up of a few generic events.

This implies, second, that no theory of events can be correct that treats recurrence as an all-or-nothing affair—that is, that holds that either all kinds of events are repeatable or none. This assumption is shared both by the particularist theory and by the alternative theories proposed by Montague and Chisholm.

Third, it is not to be expected that the two kinds of events—those that can recur and those that cannot—can be distinguished on linguistic grounds. In this respect the situation may be different from the case of masses. Terms that designate masses might be picked out by syntactic and/or semantic criteria (cf. Pelletier and Schubert 1989). No similar procedure is in sight for distinguishing terms for generic events like *growth* and *movement* from terms for individual

events like *accident* or *game*. The distinction would have to be made on purely ontological grounds without a linguistic foundation.

Finally, a defender of the concrete universal approach can agree with the particularist that our talk about recurrent events is a loose way of speaking, not to be taken seriously from an ontological point of view. The reason for this, however, is different from that which a particularist thinks. It is not that events, by their very nature, are unrepeatable. The explanation is that there are only very few events for which recurrence is possible. What is misleading in our common way of talking about recurring events is not the notion of recurrence itself but the liberal way in which we apply this notion.

#### Notes

1. I follow here the common practice of treating actions as a kind of event. I also ignore the distinction between sentences and statements. Both distinctions are irrelevant for my present concerns.
2. Davidson draws attention to a further ambiguity in the sentence *Jones bought a leopard for his wife and Smith did the same thing*. This could mean that Smith bought the same (or a different) leopard either for Jones's wife or for his own wife. I am not concerned with these further complications here.
3. Montague (1969: 175) does not reject dated properties of moments of time in general; he only thinks that not all instantaneous individual events are of that type.

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