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OBJECTS, EVENTS, AND PROPERTY-INSTANCES

ABSTRACT: The theory of events as property-instances has been considered one of the most widely accepted metaphysical theories of events. On the other hand, several philosophers claim that if both events and objects perdure, then objects must be identified with events. In this work, I investigate whether these two views can be held together. I shall argue that if they can, it depends on the particular theory of instantiation one is to adopt. In particular, I shall conclude that the theory of events as property-instances and the view that identifies objects with events can be held together only if instances of eventive universals are temporal parts of objects – namely, those temporal parts that have the universals in question.

1. INTRODUCTION

Dances, walks, kisses, smiles, and the like all share a fundamental feature: they are things that happen – or, as I shall call them, events. There are different kinds of events. Some are changes, such as my gaining weight; others are processes, such as the on-going falling of that apple; others are states, such as my having a temperature of 37°C right now.[1] Most, if not all, events are things that happen to something or someone: for instance, the kiss over there involves Jack and Rose, the

stabbing right here involves Brutus and Caesar. Jack and Rose on the one hand, and Brutus and Caesar on the other, are the participants in the events they are respectively involved in.

Realists about properties[2] find it intuitive to link the nature of an event to an entity's having of a property at a time. In such a light, according to a widely accepted metaphysical theory of events, an event e is the instance of a property P of a certain kind by an object x at a time t (in short, $e = [x, P, t]$). For instance, Rose's smile is the instance of the property *smiling* by Rose at t. This view has been considered highly plausible by many philosophers in the metaphysical debate on events: Kim (1969, 1973, 1976, 1991), Bennett (1988, 1996), and MacDonald & MacDonald (2006) are all supporters of some or other version of such a theory.

A fundamental feature of events is their being in time. Some events may be in time by lasting for a long period of time, such as The Erosion of the Dover Cliffs, others are in time by lasting for a very short period of time or just one moment, such as a collision between two balls. In any case, events are in time by having temporal parts and they persist by perduring[3] – where "something perdures iff it persists by having different temporal parts, or stages, at different times, though no one of it is wholly present at more than one time" (Lewis 1986, p. 202).[4]

By contrast, philosophers disagree about whether objects, such as Jack and Rose, perdure or endure, where something "endures iff it persists by being wholly present at more than one time" (Lewis 1986, p. 202). If objects endure, then events and the objects that participate in them are different. However, what if both Rose and the other objects perdure as events do? Consider Rose's temporal part that exactly matches her walk's temporal boundaries: is such a temporal part identical to the walk? Philosophers such a Quine (1950, 1960, 1976, 1985), Goodman (1951) and Reichenbach (1956) did provide a positive answer to such a question.[5]

Assume perdurance theory for both objects and events. The idea that temporal parts of objects should be identified with events can be motivated as follows. On the one hand, if objects perdure as events do, most reasons to distinguish objects and events are undermined. First off, given the linguistic distinction according to which objects exist but events occur, the thesis that this linguistic distinction tracks a metaphys-

ical distinction between objects and events is based on the assumption that objects endure and events perdure (Hacker 1982). Now, if both objects and events perdure, such a thesis is undermined. Second, the claims that objects move and change, but events do not (Quinton 1979, Hacker 1982, Simons 1987) are based on endurance conceptions of movement and change – conceptions that are not applicable in a perdurance framework.[6] Finally, the claim that objects are centers of stability, but events are not (Strawson 1959) is explained by the view that objects endure, and events perdure – thesis rejected by assumption. On the other hand, the idea that temporal parts of objects should be identified with events is supported by several theoretical reasons. For instance, there are considerations from ontological parsimony – accepting the identification would allow one to reduce the number of basic kinds of entities (Quine 1976). Those who accept the identification seem to gain in *ideological* parsimony as well: indeed, the identification allows us to eliminate the notion of participation and accept that of parthood alone (see, again, (Quine 1976)). Furthermore, some hold that objects can be relata of causal relations together with events. And incidentally, that objects can enter into causal relations is a consequence of identifying objects with events.

In the present article, I address the question of whether the theory of events as property-instances is consistent with the view that identifies temporal parts of objects with events. I shall argue that they are consistent only if instances of eventive universals[7] are temporal parts of objects – namely, those temporal parts that have the universals in question. The result of the paper provides an original metaphysical account of events[8] – an account that may offer a potentially fruitful ground within which the plausibility of the identification view can be evaluated.

As a motivation for the present investigation, consider the following one – based on two premises. The first premise says that the theory of events as property-instances has been widely accepted in the literature. Hence, let us keep fixed on this idea concerning the nature of events. On the other hand, the view that temporal parts of objects are events is a contentious thesis, even though the perdurance conception of objects is adopted. Furthermore, this view is just a thesis about events and temporal parts of objects, that has never been specified by a more

comprehensive metaphysical theory, e.g. a theory that also takes into account properties and their instances (Casati and Varzi 1996; Lombard 1998). Given such premises, it is relevant to investigate whether the theory of events as property- instances is consistent with the view that identifies temporal parts of objects with events. Indeed, if it turned out that the two theses are incompatible, and if the theory of events as property-instances were kept fixed, then the identification thesis should be discarded. On the contrary, if the identification view were compatible with the aforesaid idea concerning the nature of events and if it were specified how such an agreement can be made possible, then the identification view would not suffer from a potentially significant cost and we would improve our comprehension concerning some options available to the supporters of the identification view.[9]

The structure of this article is as follows: in section 2, I introduce some notions that are crucial for constructing my argument. In section 3, I advance an argument to the effect that the theory of events as property-instances and the view that identifies temporal parts of objects with events can be consistently held together only if instances of eventive universals are temporal parts of objects – namely, those temporal parts that have the universals in question. In section 4, I draw some conclusions.

2. THE FRAMEWORK

I begin by introducing the main notions and views involved in my argument. First, I make use of the notion of state. Examples of states include *x*'s having a mass of 150g or *x*'s having a temperature of 40°C. I adopt the standard characterization of state (Kim 1976; Lombard 1979; and Lowe 1998, p. 235), according to which "if an object has at some time some static property, *P*, then at that time that object can be said to be in the state of being *P*" (Lombard 1979, p. 436). The object that is in the state of being *P* is the participant in that state. Moreover, if the expression "at that time" in the characterization of state makes reference to a moment of time, then the state in question is instantaneous.[10] For the sake of simplicity, in the arguments of section 3 I stick to the notion of instantaneous state, but the argument generalizes.

In the second place, I assume the idea that events are property-

instances (Goldman 1970; Kim 1976, 1991; Bennett 1988, 1996; Lowe 2006; MacDonald & MacDonald 2006). According to such a view:

> (*Events-as-Instances*) An event *e* is the instance of a property *P of a certain kind* by some object *x* at a time *t* (representable as [*x*, *P*, *t*]).

For instance, the state *s* denoted by "*x*'s having a temperature of 40°C at *t*" is identical to the instance of the property of *having a temperature of 40°C* by *x* at *t*.[11] Since I assumed that objects perdure, what is properly meant by "an object *x*'s having the property *P* at a time *t*" is the temporal part *x*-at-*t*'s having of *P*. So, the event that is the temporal part *x*-at-*t*'s having of *P* is identical to the instance of a property *P* by *x*-at-*t* (representable as [*x*-at-*t*, *P*]).[12]

I said that an event *e* is the instance of a property *P of a certain kind* by some object's temporal part *x*-at-*t*. The specification "*of a certain kind*" is required because, in the present account, not every property *P* is such that a temporal part *x*-at-*t*'s having of *P* gives rise to an event *e*. Let us call the properties that give rise to events "eventive". Generally speaking, sortals – such as being a dog – and properties that don't bestow causal powers – such as belonging to its own singleton – are not eventive. According to Kim, eventive properties "are those properties whose possession by an object bestows upon it a causal power or potency, or whose possession by an object indicates its being subjected to such powers" (Kim 1976, p. 37).[13] Moreover, the theory in question says that eventive properties are universals and events are instances of eventive universals (Bennett 1988, 1996). Hence, let me speak of eventive universals instead of eventive properties for the sake of clarity.

In the third place, the identification view between temporal parts of objects and events has been introduced by examples, such as that involving Rose's relevant temporal part and her walk. A more precise characterization is needed. For the sake of simplicity, only consider events in which, at first sight, just one temporal part of some object participates. Moreover, for the sake of argument, assume that every temporal part of an object participates in some event. Then, the thesis that temporal parts of objects are identified with events is specified as follows:

> (*Identification Thesis*) An event *e* that takes place at a moment *t*

> is identical to the object's temporal part participating in it at t.[14]

According to this thesis, every temporal part x-at-t of some object x is a part of the entire history of that object, every events e_1 and e_2 taking x-at-t as the unique participant are identical, and an object just is the mereological sum of the events that happen to it. The Identification Thesis adequately captures Quine's examples:[15]

> Physical objects, conceived thus four-dimensionally in space-time, are not to be distinguished from events or, in the concrete sense of the term, processes. Each comprises simply the content, however heterogeneous, of some portion of space- time, however disconnected and gerrymandered. (Quine 1960, p. 171)

> If a man whistled a song all the while he was walking to the bus stop and not a moment more, then presumably the event of his whistling the song and the event of his walking to the bus would both be identified with the same temporal segment of the man. (Quine 1976, p. 498)

3. THE COMPATIBILITY PROBLEM

The issue I am interested in here is the question whether:

> (*Events-as-Instances*) An event e is the instance of a property *P of a certain kind* by some object x at a time t (representable as [x, P, t]).[16]

> (*Identification Thesis*) An event e that takes place at a moment t is identical to the object's temporal part participating in it at t.

can be held together. Whether they can it depends – I shall argue – on the particular theory of instantiation one is to adopt. The different, mutually exclusive options concerning how to understand the notion of instance of an eventive universal are the following:

(1) Instances of eventive universals are repeatable entities;

(2) Instances of eventive universals are tropes;

(3) Instances of eventive universals are facts;

(4) Instances of eventive universals are temporal parts of objects – namely, those temporal parts that have the universals in question.

The meaning of option (1) is specified within Loux (1978)'s theory according to which instances of a universal, that is not a kind or a sortal, are all numerically identical (Loux (1978, pp. 158–159 and p. 161)).[17] Two remarks are needed. Firstly, as I said in section 2, eventive universals are neither kind nor sortal universals. Hence, all the instances of an eventive universal *P* are numerically identical. Secondly, I shall stay neutral as to whether or not a universal is identical to its repeatable instances, since such a question is not relevant for my present aim.

Option (2) maintains that instances of eventive universals are tropes. Such an option is motivated by the theory of instantiation endorsed by Kim (1976, 1991), Bennett (1988, 1996), and Lowe (2006). According to such a theory, tropes are particular tokens of universals – tokens that are borne by temporal parts of objects, that are metaphysically simple,[18] and that are present in space-time. For instance, both John and I share the universal of *having mass 90kg*. However, the particular instance *I* of that universal borne by John is different from the instance *I** of the same universal borne by me. Both *I* and *I** are particular tokens of *having mass 90kg* and they are present in space-time – the space-time regions they occupy are those their bearers are present at.[19]

Option (3) says that instances of eventive universals are facts (also called "states of affairs") – where a fact is an object bearing a universal. Such an option is based on the theory of facts (states of affairs) as instances of universals set forth in (Moreland 1996) and in (Armstrong 1997, p. 119 and p. 127). Within such a view, a fact is a metaphysically complex particular[20] present in space-time – whose constituents are the universal *P* the fact is an instance of and a particular (different from the fact itself) that has, or is tied to, the universal *P*, and whose relation of constitution is, generally, a non-mereological one.[21] For instance, if *x*-at-*t* has the universal of *having mass 90kg*, such a universal has a particular instance that is a fact (the fact called "*x-at-t's having a mass of 90kg*") located where *x*-at-*t* is – whose constituents are the universal of *having mass 90kg* and a particular *p* somehow related to *x*-at-*t* (the nature of such a particular is accounted differently within different theories of facts).[22]

Option (4) is not one of the main contenders in the metaphysical debate of instantiation. Moreover, to my knowledge, it has never been accurately explored in the literature. However, such an option is based on the view considered in (Rodriguez-Pereyra 2015, §2.2, Orilia & Swoyer 2016, §1.1.1), and briefly discussed by Lombard (1998). Further, such a view has been examined independently from (*Identification Thesis*). So, for these reasons, such an account is worth considering for the question we are investigating. The authors mentioned do not commit to any particular theory of persistence and they say that if an object x has or instantiates a property P at a time t, then x is called an instance of P at t (see, Orilia & Swoyer 2016, §1.1.1). Hence, if perdurantism is assumed, (4) follows: instances of eventive universals are the temporal parts of objects that have such properties. For instance, consider the following situation: suppose that x-at-t has the universal of *having mass 90kg*. Then, according the view we are exploring, the instance of the universal of *having mass 90kg* borne by x-at-t is x-at-t itself. I will assume in what follows that all options (1)–(4) are tenable.

3.1. Instances as repeatable entities

Assume that instances of eventive universals are repeatable entities. This means that instances of an eventive universal P are all numerically identical. Then, we can argue that (*Events-as-Instances*) is not compatible with (*Identification Thesis*) as follows.

Suppose the temporal part x-at-t has the property of *having a temperature of 40°C*. Such a property is usually taken to be eventive, since it has associated with it a set of causal powers. Hence, the temporal part x-at-t is the participant in the state of x-at-t's having a temperature of 40°C. By (*Events-as-Instances*), x-at-t's state of having a temperature of 40°C is identified with the instance I of the property of *having a temperature of 40°C* by x-at-t. By (*Identification Thesis*), x-at-t's state of having a temperature of 40°C is identified with x-at-t. Hence, by the symmetry and the transitivity of identity, x-at-t is identical to the instance I. Now, suppose a distinct temporal part x-at-t^* (from x-at-t) has the property of *having a temperature of 40°C*. Hence, the temporal part x-at-t^* is the participant in the state of x-at-t^*'s having a temperature of 40°C. By (*Events-as-Instances*), x-at-t^*'s state of having a temperature of 40°C is identified with the instance I^* of the property of *having a temperature*

of 40°C by *x*-at-*t**. By (*Identification Thesis*), *x*-at-*t**'s state of having a temperature of 40°C is identified with *x*-at-*t**. Hence, by the symmetry and the transitivity of identity, *x*-at-*t** is identical to the instance *I**. The view we are considering allows us to conclude that *I* is identical to *I**. Hence, by substitution, it follows that *x*-at-*t* is identical to *x*-at-*t**. But, it is not the case by assumption. Therefore, if instances of eventive universals are repeatable entities, the theory of events as property-instances is not consistent with the view that identifies temporal parts of objects with events.

3.2. Instances as tropes

Assume that instances of eventive universals are tropes. Then, the incompatibility between (*Events-as-Instances*) and (*Identification Thesis*) can be derived as follows.

Suppose the temporal part *x*-at-*t* has the property of *having a temperature of 40°C*. Such a property is usually taken to be eventive, since it has associated with it a set of causal powers. Hence, the temporal part *x*-at-*t* is the participant in the state of *x*-at-*t*'s having a temperature of 40°C. By (*Identification Thesis*), *x*-at-*t*'s state of having a temperature of 40°C is identified with *x*-at-*t*. Since instances of eventive universals are tropes and by (*Events-as-Instances*), *x*-at-*t*'s state of having a temperature of 40°C is identified with a trope of *having a temperature of 40°C*. Now, suppose the temporal part *x*-at-*t* has the distinct property of *having a mass of 150g*. Such a property is taken to be eventive for the same reason I stated before. Thus, the temporal part *x*-at-*t* is the participant in the state of *x*-at-*t*'s having a mass of 150g. By (*Identification Thesis*), *x*-at-*t*'s state of having a mass of 150g is identified with *x*-at-*t*. But, since instances of eventive universals are tropes and by (*Events-as-Instances*), *x*-at-*t*'s state of having a mass of 150g is also identified with a trope of *having a mass of 150g*. Then, by the symmetry and the transitivity of identity, we derive that a trope of *having a temperature of 40°C* is identical to a trope of *having a mass of 150g*, which is not the case. Therefore, if instances of eventive universals are tropes, it follows that the theory of events as property-instances is not consistent with the view that identifies temporal parts of objects with events.

3.3. Instances as facts

Assume that instances of eventive universals are facts. The argument that shows the incompatibility between (*Events-as-Instances*) and (*Identification Thesis*) is exactly the same I gave in the case of tropes.

Suppose the temporal part *x*-at-*t* has the eventive property of *having a temperature of 40°C*. Hence, the temporal part *x*-at-*t* is the participant in the state of *x*-at-*t*'s having a temperature of 40°C. By (*Identification Thesis*), *x*-at-*t*'s state of having a temperature of 40°C is identified with *x*-at-*t*. Since instances of eventive universals are facts and by (*Events-as-Instances*), *x*-at-*t*'s state of having a temperature of 40°C is identified with the fact "*x*-at-*t*'s having a temperature of 40°C". Now, *x*-at-*t* also has the distinct eventive property of *having a mass of 150g*. Thus, the temporal part *x*-at-*t* is the participant in the state of *x*-at-*t*'s having a mass of 150g. By (*Identification Thesis*), *x*-at-*t*'s state of having a mass of 150g is identified with *x*-at-*t*. But, since instances of eventive universals are facts and by (*Events- as-Instances*), *x*-at-*t*'s state of having a mass of 150g is also identified with the fact "*x-at-t's having a mass of 150g*". Then, by the symmetry and the transitivity of identity, we derive that the fact "*x-at-t's having a temperature of 40°C*" is identical to the fact "*x-at-t's having a mass of 150g*". However, this is not the case. Therefore, if instances of eventive universals are facts, the theory of events as property-instances is not consistent with the view that identifies temporal parts of objects with events.

3.4. Instances as temporal parts of objects

Assume that instances of eventive universals are temporal parts of objects – namely, those temporal parts that have the universals in question. Then, we can show that (*Identification Thesis*) is compatible with (*Events-as-Instances*) as follows.

Suppose that the temporal part *x*-at-*t* has the eventive universal of *having a temperature of 40°C* and the eventive universal of *having a mass of 150g*. Hence, the temporal part *x*-at-*t* is the participant in the state of *x*-at-*t*'s having a temperature of 40°C and in the state of *x*-at-*t*'s having a mass of 150g. By (*Identification Thesis*), it follows that *x*-at-*t*'s having a temperature of 40°C is *x*-at-*t* and that *x*-at-*t*'s having a mass of 150g is again *x*-at-*t*. By (*Events-as-Instances*), *x*-at-*t*'s having a temperature of

40°C is the instance of the universal of *having a temperature of 40°C* by *x*-at-*t*, and *x*-at-*t*'s having a mass of 150g is the instance of the universal of *having a mass of 150g* by *x*-at-*t*. According to the theory of instantiation we are exploring – i.e. (4) –, the instance of the universal of *having a temperature of 40°C* by *x*-at-*t* is the temporal part *x*-at-*t*. The instance of the universal of *having a mass of 150g* by *x*-at-*t* is again the temporal part *x*-at-*t*. Hence, on the one hand, there is no contradiction in saying that the instance of the universal of *having a temperature of 40°C* by *x*-at-*t* is identical to the instance of the universal of *having a mass of 150g* by *x*-at-*t*: this instance is the very same temporal part *x*-at-*t*. On the other hand, given the assumption of (*Events-as-Instances*) and (4), (*Identification Thesis*) follows: for instance, in the case at hand, we derive that the states *x*-at-*t*'s having a temperature of 40°C and *x*-at-*t*'s having a mass of 150g, that take *x*-at-*t* as their participant, are both identical to *x*-at-*t*. Therefore, if (4) is adopted, (*Events-as-Instances*) is compatible with (*Identification Thesis*). A schematic version of the last argument is the following:

(i) The event *e* is an instance – call it "*I*" – of the eventive universal *P* (by (*Events-as-Instances*)).

(ii) The instance *I* of the eventive universal *P* is the temporal part *x*-at-*t* of some object *x* (by (4)).

(iii) The event *e* is the temporal part *x*-at-*t* of some object *x* (by (i) and (ii)).

Premise (i), according to which events are instances of eventive universals, is just the metaphysical thesis (*Events-as-Instances*) we are considering. Premise (ii) is justified by the particular theory of instantiation we have been examining. Conclusion (iii) follows from the transitivity of identity. Therefore, if (4) is adopted, the theory of events as property-instances is compatible with the theoretical framework within which events are identified with temporal parts of objects.

4. CONCLUSIONS

Given the assumption of that both events and objects perdure, I investigated the question of whether the theory of events as property-instances

is consistent with the thesis that an event *e* taking place at a moment *t* is identical to the object's temporal part participating in it at *t*. This question receives the following answer: if instances of eventive universals are repeatable entities, trope-like entities or facts, the answer is in the negative; if instances of eventive universals are identified with the temporal parts that have those universals, the answer is in the affirmative.

The conclusion reached triggers some considerations. First, the results of this work are original insofar as they make it clear that the identification thesis, expressed by (*Identification Thesis*), can be held together with the theory of events as property-instances, expressed by (*Events-as-Instances*). Secondly, the adoption of (4) and (*Events-as-Instances*) makes up an account of events that has not yet been considered in the metaphysical debate on events. As a consequence, the new package demands a more careful re-evaluation of the (*Identification Thesis*) than that conducted so far. Thirdly, if the new account of events turned out to be plausible, it would have relevant consequences on the metaphysical theories of objects as well. Indeed, since it discards all the positions that consider instances of eventive universals either as repeatable entities, or as tropes, or as facts, such an account of events also imposes to reject those theories that account for the nature of objects through the reference to the aforementioned theories of instantiation, e.g. Armstrong (1997)'s theory of states of affairs, and Lowe (2006)'s theory of substances. On the other hand, if option (4) turned out to be implausible, (*Identification Thesis*) would be incompatible with (*Events-as-Instances*). As a consequence, since (*Events-as-Instances*) is a plausible thesis, (*Identification Thesis*) would be rather costly position to adopt. Finally, such an original account of events has been formulated under favourable assumptions. On the one hand, I considered only events in which, at first sight, just one temporal part of some object participates. On the other hand, I considered only states. Both assumptions are rather substantive to the extent that most of the events we meet are dynamic events involving two or more participants – e.g. Brutus's stabbing of Caesar. These restrictions prompt the question of how, once they are taken off, the new conception of events can be plausibly developed so as to account for those dynamic events involving two or more participants. This is a significant metaphysical question

that deserves attention and that I will leave for another occasion.

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Notes

[1]Along with most of the participants in the debate concerning the metaphysics of events, I take for granted that states are events (see Kim 1976; Bennett 1988, §60; Varzi 2002; Lowe 2006, §5.7; Jones 2013).

[2]I call "realists about properties" those philosophers that think that features, such as *having a round shape*, *kissing*, or *having spin top*, are irreducible additions to the catalogue of what there is.

[3]Stout (2016) argues that processes, that are a kind of events, endure.

[4]Events that last for just one moment of time – i.e., instantaneous events –, are composed of just one instantaneous temporal part. Hence, as a general characteristic, all events are composed of temporal parts.

[5]A concern against this identification may be that some events do not take temporal parts of objects as participants. For instance, suppose being unwilling to count electromagnetic fields as objects, or suppose there are entities such as immaterial things, e.g. Cartesian minds. If we concede that there can be events taking those entities as participants, then the category of events referred to in the question of whether temporal parts of objects should be identified with events has to be restricted to those events only temporal parts of objects participate in.

[6]The endurance conception of change says that something changes if and only if it has a property at a time and, at a later time, the very same thing has an incompatible property. Since such a characterization of change presupposes the assumption of endurance theory (see, e.g., (Hawley 2001, pp.11–14)), perdurance theorists reject it and adopt instead a notion of change according to which something changes if and only if it has different temporal parts with incompatible properties. Since movement is a particular case of change, the same line of reasoning applies to it as well.

[7]The notion of eventive universal will be clarified in section 2.

[8]Such an account is made up of the thesis that events are property-instances and the thesis that instances of eventive universals are temporal parts of objects – namely, those temporal parts that have the universals in question.

[9]As a second and related motivation, the identification view is traditionally conceived of as incompatible with the version of the theory of events as property-instances endorsed, for instance, by Kim and Bennett (Casati and Varzi 1996; Pianesi & Varzi 2000). If the initial idea according to which the nature of events is to be explained in terms of instances of properties is granted, then the question of whether the identification thesis is compatible with some version of the theory of events as property-instances seems to be more than worth addressing.

[10]I shall assume that the notion of moment and that of instant are synonymous.

[11]I follow Bennett (1988, 1996) who makes no difference between the terms "instance" and "instantiation". Moreover, there is a terminological difficulty to be signaled here. Some philosophers adopt the expressions "exemplification" (e.g., Kim 1976) or "exemplifying" (e.g., MacDonald & MacDonald 2006) for what I call "instance" or "instantiation". With such a caution in mind, let us continue to say that events are property-instances.

[12]Given such a specification, (*Events-as-Instances*) has to be rephrased in the obvious way.

[13]This question has been discussed also in (Bennett 1988, §36, 1996).

[14]Concerning events that count just one participant, the identification between an event and its unique participant is clear. If an event e has two or more objects' temporal parts participating in it at a moment t, then someone might be willing to identify e with the mereological sum of those temporal parts at t. For instance, see (Quine 1976). I will leave this complication aside.

[15]A putative reason against (*Identification Thesis*) concerns the meaning of the notion of participation. According to such an objection, participation is not identity: if x participates in e, then $x \neq e$. A reply I find plausible is the following. On the one hand, the reply points out that the notion of participation cannot presuppose a specific metaphysical view about events and objects on pain of begging the question against (*Identification Thesis*). On the other hand, it suggests using the notion of participation as a tool that brings attention to bear on the particular entities involved – i.e. x and e, without debarring the possibility that $x = e$.

[16]Given the specifications of Section 2, (*Events-as-Instances*) must be reformulated as follows: (*Events-as-Instances*) An event e is the instance of an eventive universal P by some object's temporal part x-at-t (representable as [x-at-t, P]).

[17]Loux (1978) says: "to accept a realistic account of attributes, it seems, is just to commit oneself to the view that the instantiations of a given property are all numerically identical" (p. 159) and "we can say that while the objects exhibiting whiteness are numerically different, the instantiations of whiteness in them are identical" (p. 161).

[18]With "metaphysically simple" I mean that tropes do not have constituents that do not belong to the category "trope". For such a notion, see, e.g., Maurin (2002, pp. 14–15).

[19]The present notion of trope should be kept distinct from the notion of trope associated with Williams (1953), Campbell (1990), and Maurin (2002), that maintains that tropes are the basic constituents of Reality.

[20]With "metaphysically complex" I mean that a fact has at least some constituent that does not belong to the category "fact".

[21]If one admits tropes in her ontology, then "instance" can also mean an object bearing a

trope – where this trope is a token of a certain universal (a supporter of such a position is, e.g., Lowe (2006)). However, for the aims of this article, the adoption of such a meaning of "instance" has the same consequences as the adoption of the meaning of "instance" according to which an instance of an eventive universal is a state of affairs in Armstrong (1997)'s sense. For this reason, this view won't be considered further.

[22]The nature of the particular *p* depends on the kind of ontology one is to adopt. If one goes for a relational ontology (van Inwagen 2011), according to which ordinary objects do not have constituents that do not belong to the category "ordinary object", then the particular *p* is identical to *x*-at-*t*. If one likes a constituent ontology – according to which facts are the constituents of ordinary objects, then the particular *p* is a bare particular that is the metaphysical individuator of *x*-at-*t* or of a part of *x*-at-*t* (Moreland 1998). Other distinctions concerning the notion of fact hinge on the theory of universals one adopts (Moreland 1996).

References

Armstrong, David. 1997. *A World of States of Affairs*. Cambridge: Cambridge University Press.

Bennett, Jonathan. 1988. *Events and Their Names*. Oxford: Oxford University Press UK.

——. 1996. 'What Events Are'. In Roberto Casati & Achille C. Varzi (eds.) 'Events', 137 – 151. Dartmouth Publishing Co.

Campbell, Keith. 1990. *Abstract Particulars*. Oxford: Basil Blackwell.

Goldman, Alvin I. 1970. *A Theory of Human Action*. Princeton University Press.

Goodman, Nelson. 1951. *The Structure of Appearance*. Cambridge (MA): Harvard University Press.

Hacker, P. M. S. 1982. 'Events and Objects in Space and Time'. *Mind* 91, no. 361: 1–19.

Hawley, Katherine. 2001. *How Things Persist*. Oxford: Oxford University Press.

Jones, Tessa. 2013. 'The Constitution of Events'. *The Monist* 96, no. 1: 73–86.

Kim, Jaegwon. 1969. 'Events and Their Descriptions: Some Considerations'. In Nicholas Rescher (ed.) 'Essays in Honor of Carl G. Hempel', 198–215. Reidel.

——. 1973. 'Causation, Nomic Subsumption, and the Concept of Event'. *Journal of Philosophy* 70, no. 8: 217–236.

——. 1976. 'Events as Property Exemplifications'. In M. Brand & D. Walton (eds.) 'Action Theory', 310–326. D. Reidel.

——. 1991. 'Events: Their Metaphysics and Semantics'. *Philosophy and Phenomenological Research* 51, no. 3: 641–646.

Lewis, David K. 1986. *On the Plurality of Worlds*. Wiley-Blackwell.

Lombard, Lawrence B. 1979. 'Events'. *Canadian Journal of Philosophy* 9, no. 3: 425–460.

——. 1998. 'Ontologies of Events'. In Cynthia Laurence, Stephen MacDonald (ed.) 'Contemporary Readings in the Foundations of Metaphysics', 277–294. Blackwell.

Loux, Michael. 1978. *Substance and Attribute*. Dordrecht: D. Reidel Publishing Company.

Lowe, E. J. 1998. *The Possibility of Metaphysics: Substance, Identity, and Time*. Oxford: Clarendon Press.

——. 2006. *The Four-Category Ontology: A Metaphysical Foundation for Natural Science*. Oxford: Clarendon Press.

MacDonald, Cynthia & MacDonald, Graham. 2006. 'The Metaphysics of Mental Causation'. *Journal of Philosophy* 103, no. 11: 539–576.

Maurin, Anna-Sofia. 2002. *If Tropes*. Dordrecht: Kluwer Academic Publishers.

Moreland, J. P. 1996. 'Issues and Options in Exemplification'. *American Philosophical Quarterly* 33, no. 2: 133–147.

Moreland, P. J. 1998. 'Theories of Individuation: A Reconsideration of Bare Particulars'. *Pacific Philosophical Quarterly* 79, no. 3: 251–263.

Orilia, Franceso & Swoyer, Chris. 2016. 'Properties'. In Edward N. Zalta (ed.) 'The Stanford Encyclopedia of Philosophy (Winter2016)', URL = <https://plato.stanford.edu/archives/win2016/entries/properties/>.

Pianesi, Fabio & Varzi, Achille C. 2000. 'Events and Event Talk: An Introduction'. In James Higginbotham, Fabio Pianesi & Achille C. Varzi (eds.) 'Speaking of Events', 3–47. Oxford University Press.

Quine, Willard V. O. 1950. 'Identity, Ostension, and Hypostasis'. *Journal of Philosophy* 47, no. 22: 621–633.

——. 1960. *Word and Object*. Cambridge (MA): MIT Press.

——. 1976. 'Whither Physical Objects?' In R. S. Cohen, P. K. Feyerabend & M. Wartofsky (eds.) 'Essays in Memory of Imre Lakatos', 497–504. Reidel.

——. 1985. 'Events and Reification'. In Ernest Lepore & Brian McLaughlin (eds.) 'Actions and Events: Perspectives on the Philosophy of Davidson', 162–171. Blackwell.

Quinton, Anthony. 1979. 'Objects and Events'. *Mind* 88, no. 350: 197–214.

Reichenbach, Hans. 1956. *The Direction of Time*. Berkeley: University of California Press.

Rodriguez-Pereyra, Gonzalo. 2015. 'Nominalism in Metaphysics'. In Edward N. Zalta (ed.) 'Stanford Encyclopedia of Philosophy', URL = <https://plato.stanford.edu/archives/win2016/entries/nominalism-metaphysics/>.

Simons, Peter. 1987. *Parts: A Study in Ontology*. Oxford: Oxford University Press.

Stout, Rowland. 2016. 'The Category of Occurrent Continuants'. *Mind* 125, no. 497: 41–62.

Strawson, Peter F. 1959. *Individuals: An Essay in Descriptive Metaphysics*. London: Methuen.

van Inwagen, Peter. 2011. 'Relational Vs. Constituent Ontologies'. *Philosophical Perspectives* 25, no. 1: 389–405.

Varzi, Achille C. 2002. 'Events, Truth, and Indeterminacy'. *The Dialogue* 2: 241–264.

Williams, Donald Cary. 1953. 'On the Elements of Being: I'. *Review of Metaphysics* 7, no. 1: 3–18.