Abstract
I believe that a radically fine-grained property-exemplification theory is the right approach to the metaphysics of events. In this paper I will not be arguing for this detail but will be more concerned with issues over the internal consistency of the property-exemplification theory; in particular, I want to resolve issues about the individuation of property-tokens.

1 The property-exemplification theory
A particular property-token is the exemplification of a particular property by a particular substance at a particular time. Therefore, two property-tokens are the same if they involve the same substance, the same property and the same time.

Properties are here considered to be monadic. This means that if billiard ball $A$ hits billiard ball $B$, the property being exemplified is hitting-billiard-ball-$B$, and this is being exemplified by billiard ball $A$. We can redescribe $A$ without producing a different property-token, e.g., the property-token of a billiard ball at position $\langle x, y, z \rangle$ hitting billiard ball $B$ is the same property-token as above if ball $A$ is, in fact, at $\langle x, y, z \rangle$. Thus Goldman ([2, p.12]) says “two expressions may refer to the same act-token even though they contain different, non-synonymous phrases for the same agent. If ‘John’ and ‘the mayor’ designate the same agent, then ‘John’s killing Smith (at $t$)’ and ‘The mayor’s killing Smith (at $t$)’ designate the same act-token.” Since John and the mayor are the same substance, and everything else is the same, they are the same property-token. It is perhaps counter-intuitive that the same does not apply if we redescribe billiard ball $B$. Here we are dealing with the properties hitting-billiard-ball-$B$ and hitting-the-billiard-ball-at-$\langle x, y, z \rangle$. These are different properties, so their exemplifications are distinct.

Although they are distinct, they are of course related, but not by strict identity. These property-exemplifications are related to each other.
through relations that Goldman ([2]) calls level-generation and same-
levelness (hereafter level-generation will be taken to include same-level-
ness) in a tree–like structure. The tree shows all the property–tokens
that are exemplified by a particular substance at a particular time where
these tokens are level–generated by the basic token. In the case of acts,
the basic act–token is taken to be the bodily movement of the agent,
e.g., John’s pulling his finger. In the case of the billiard ball, billiard
ball A’s hitting billiard ball B is already the basic token, and billiard
ball A’s hitting the billiard ball at \(\langle x, y, z \rangle\) is on the same–level as the
basic token. Tokens are on the same level if the only difference between
them is a redescription of the relational object ([2, p.31]). A discussion
of level–generation is outside the scope of this paper, but we will discuss
relational properties later.

2 The identity crisis of property–exemplifications

To individuate between property–tokens we have to be able to individ-
uate between substances, between properties, and between times. This
allows us to describe events in terms of these more general ontological
types, and the individuation of events becomes a question of the indi-
viduation of instances of each type independently of the other types.

For instance, Thalberg ([7, pp.2f]) argues that it is impossible to in-
dividuate between substances without referring to the events (property–
tokens) in which they have been involved.² It is circular to individuate
events by referring to substances if one cannot individuate substances
without referring to events. Then, Thalberg ([7, p.7]) argues that it
is equally impossible to individuate between times without referring to
events. He remarks on the fact that all our systems of time–keeping
refer to events; specifically, on the periodicity of certain processes such
as the rotation of the Earth on its axis and around the sun. Thus, there
is again circularity. Thalberg’s conclusion is that events are irreducible
particulars, a position also held by Anscombe and Davidson amongst
others.

It should also be mentioned that, by Goldman’s own account, the
individuation of properties is also extremely difficult and one to which
he does not pretend to have provided a fully adequate solution. He offers
the following ([2, p.12]):

‘Properties \(\Phi\) and \(\Phi'\) are identical [...] when they are ex-
pressible by synonymous expressions. Being a bachelor is
thus the same property as being an unmarried man, since
the former can be expressed by the phrase ‘being a bachelor’ and the latter by the synonymous phrase ‘being an unmarried man.’ […] if there are phrases in a language which express Φ and Φ’, then their being synonymous is a necessary and sufficient condition for their expressing the same property.”

He makes the following objections.

Firstly, he considers properties that can be picked out by definite descriptions. To take an example from Chisholm ([1, pp.14–16]), we can say ‘Black is the color of my true love’s hair’, and on this basis being–black and being–the–color–of–my–true-love’s–hair are identical properties although they are not synonymous. Goldman’s ([2, p.13]) response is to say that the synonymy test should only be applied to “phrases that express properties, and must not be applied to definite descriptions that merely refer indirectly to properties.”

A contrasting view is taken by Tye [8, pp.22f], who constructs an analogous argument as follows:

(1) Red is the color of ripe tomatoes.

(2) ‘Red’ designates the property that ‘is red’ expresses.

(3) ‘The color of ripe tomatoes’ designates the property that ‘has the color of ripe tomatoes’ expresses.

(4) ‘Is red’ is not synonymous with ‘has the color of ripe tomatoes’.

(2) and (3), in conjunction with (1), entail

(5) ‘Is red’ expresses the same property as ‘has the color of ripe tomatoes’.

And (5), in conjunction with (4), yields the conclusion that the synonymy principle is mistaken.

Tye challenges premise (3). He says that ‘the color of ripe tomatoes’ is a definite description of the property of redness. Therefore (3) is not true unless

(6) Being red is having the color of ripe tomatoes

is true ([8, p.23]). He argues that both ‘being red’ and ‘having the color of ripe tomatoes’ are rigid designators, and that therefore if (6) is true, it must be necessarily true. Since it is possible to imagine an object in some possible world that is green and also the color of ripe tomatoes, then it
cannot be necessarily true, and therefore must be false. Consequently, (3) is also false. This follows for all contingent property identities with the grammatical form of (6) ([8, pp.24f]).

Goldman seems to say that these are the same property, whereas Tye seems to conclude that they are not. We will now look at what Chisholm says. But first we have to look at his different identity criterion: the intentional criterion. This sees properties as entia rationis, entities that are essentially conceivable by the mind ([1, p.14]):

(C1) Attribute A is identical to attribute B iff Attributes A and B are necessarily so related that whoever has one as intentional content of an act of thought has the other as intentional content of an act of thought.

We can say in short that if two properties are identical, then whenever we conceive of one we also necessarily conceive of the other, thus ruling out, as a linguistic and extensional criterion like Goldman’s does not, properties that are merely co-extensive.³

Then ([1, pp.14–16]) gives the objection as follows:

(1) There is a person S who can truly say, ‘Black is the color of my true love’s hair.’.

Therefore:

(2) The following attributes are identical, (a) black and (b) the color of my true love’s hair.

(3) According to (C1), the identity criterion for attributes, the two attributes are distinct. One can attribute (conceive) either of them without thereby attributing the other. Hence:

(4) The criterion of attribute identity is inadequate.

He argues that the ‘is’ in (1) is an ‘is’ of identity linking two singular terms: the noun ‘Black’ and the definite description ‘the color of my true love’s hair’. He rewrites (1) as ‘The color of my true love’s hair = Black’, where ‘=’ is the ‘is’ of identity. Black is the name of the attribute ‘being–black’, so if Black is attributed by S, then S believes that something is black. Next, from (1) we can substitute ‘the color of my true love’s hair’ for Black in the above, to give ‘if the color of my true love’s hair is attributed by S, then S believes that something is black.’. If we look back at (3), we can see that we cannot attribute one of them
without attributing the other, or conceive of some \( x \) as having one but not the other. Chisholm concludes that the intentional criterion does not entail that these attributes are distinct and affirms their identity.

My sympathies are with Tye rather than with Chisholm here, and I think that we should consider being black and being the color of my true love’s hair as distinct properties. By adopting Chisholm’s intentional criterion, I think we can obviate the need to talk about rigid designators in Tye’s analysis, and simply stress the fact that the intentional criterion says that the attributes are necessarily related such that one cannot conceive of one without the other. There is no necessary relation between being black and being the color of my true love’s hair. As Tye would put it, there is a possible world in which black is not the color of my true love’s hair.

With this in mind, I think that the intentional criterion improves on the synonymy test. In some ways the property–exemplification theory I am endorsing is a fusion of Goldman’s and Chisholm’s views. Armed with our new identity criterion for properties, we can examine the other objections Goldman raises.

The second objection Goldman ([2, p.13]) makes involves contingent identities. Is the property of having a temperature \( T \) the same property as having mean molecular energy \( M \)? The predicate expressions formed from these properties do not seem to be synonymous but physics shows the properties to be identical. Goldman ([2, p.224]) says: “There is an additional problem of deciding when, if at all, the exemplifying of a property \( P \) by an object \( O \) is identical with the exemplifying of a property \( P' \) by the physical parts of \( O \), where \( P \neq P' \).” Suppose that we say that an object, say a spoon, has the temperature \( T \), and the mean molecular energy \( M \). What we should note is that when we say that the spoon has a mean molecular energy, by ‘spoon’ we are referring to the arrangement of molecules that compose the spoon, that are its ‘physical parts’. A spoon, as the exemplifier of the property having–temperature–\( T \), is an individual, and an individual cannot have a mean of anything. Now apply the intentional criterion for properties. Is it possible to have, as the content of a thought, a spoon as having this property without having as the content of a thought the micro-structure of the spoon having the property of having the corresponding (whatever that might be) mean molecular energy? I think not.

I propose, following an idea of Menzies ([6]), that we should say that \( O \)’s–having property–\( P \) is not identical but mereologically supervenes on the–constitution–of–\( O \)’s–having–the–contingently–identical–property–
There is a sense in which, when I conceive of the supervening property, I also conceive of the supervened property exemplified by the object’s constituents, even if I do not know what those constituents in the supervenience base might be or even whether \( O \) in fact has constituents. We can always conceive of physical matter being further subdivided into parts, as a long tradition of philosophy teaches us, with the result that Leibniz believed that atoms must be spiritual.

However, we should note that if we have the magnitudes of the contingently identical properties, e.g., by substituting real values for \( T \) and \( M \) in having-temperature-\( T \) and having-mean-molecular-energy-\( M \), this relation is destroyed since we can always conceive that any proposed formula relating magnitudes is incorrect. But, we can say in addition that \( O' \)’s–having property–\( P \) is on the same tree as \( O' \)’s–having–property–\( P \)–with–magnitude–10, and the–constituents–of–\( O' \)’s–having–the–contingent–property–\( P' \) is on the same tree as the–constitution–of–\( O' \)’s–having–the–contingent–property–\( P' \)–with–magnitude–15, where these magnitudes follow from the formula. So, I propose that we can also say that the macro–level tree supervenes on the micro–level tree. Mereological supervenience does not relate events within a tree but across trees; derivatively, we have a relation between trees. We thereby preserve the principle that a tree shows what is exemplified by a single substance.

In this way, my act of raising my right arm mereologically supervenes on the contraction of particular muscles. Obviously, this is not all that it supervenes on. It also mereologically supervenes on particular intentional states – I would suggest on a particular preparedness of the agent to revise his beliefs depending on the outcome of his attempted action. Suppose that John shoots George dead. John’s killing George supervenes on the contraction of his finger on the trigger, the causal chain this initiates up to the point of George’s death, and an attention to whether by acting thus he achieves his end of killing George. Without this intentional state, the agent does not act intentionally. It is this that distinguishes my intentional act from the mere movement of my body. It is this that is left over when my right arm’s rising has been subtracted from my raising of my right arm.

Not all contingent identities belong to the category of mereological supervenience. For instance, the properties flying–to–the–Evening–Star and flying–to–the–Morning–Star are distinct on the intentional criterion. However, they are on the same tree (in these cases on the same–level), since they are both exemplified by the same substance at the same time and the Evening Star is extensionally equivalent to the Morning
Star. Likewise, in our earlier example billiard-ball–A-hitting-billiard-ball–B is on the same tree as billiard-ball–A-hitting-the-billiard-ball–at–⟨x, y, z⟩. This contrasts with the temperature example where the contingently identical properties are exemplified by different substances, namely, the spoon–as–individual and the spoon–as–physical–parts, and therefore belong on different trees, where these trees are related by mereological supervenience. We must not let the ambiguity due to the fact that we use the same word ‘spoon’ in both cases confuse us.

Failure to note this ambiguity can lead to error, especially in action theory, because the same subject term, e.g., ‘John’, can refer to John–as–agent or to John–as–physical–system–without–intentionality. Consider an involuntary act, e.g., ‘John coughed’. According to Goldman, coughing is an act–type; if it is performed involuntarily, e.g., as a reflex action, then its exemplification is not an act–token, but if it is performed on purpose, e.g., as a signal, then its exemplification is an act–token. Thus, Goldman ([2, p.16]) says that not every exemplification of an act–type is an act–token. This seems to me incorrect. Rather, we should say that coughing involuntarily is not an act–type; no intentional state is in the supervenience base. An act–type can only be exemplified by an agent qua agent, and not just qua physical body.

A more serious error can be found in Chisholm’s notion of agent causation. Chisholm proposes this as the semantic thesis that an action–sentence cannot be analyzed in such a way that reference to the agent is eliminated. By construing it in this way, it follows that both free and involuntary acts are agent–caused ([2]). But there is no semantic analysis of ‘John coughed’ that is able to discriminate between John’s body coughing as a reflex action and John’s purposefully coughing. Analogously to ‘spoon’, although we use the same subject term ‘John’ we do not have the same referent. Analogously to ‘killing George’, we use the same predicate term ‘coughed’ to refer to either free or involuntary coughing. So ‘John coughed’ is indeterminate, and can only become more determinate by its wider context, and not by delving any deeper into its logical form. If ‘John coughed’ is finally determined as involuntary, then ‘John’ does not refer to an agent in the first place and we can not talk about the ineliminability of reference to the agent.

The third objection Goldman ([2, p.13]) makes is that it results in individuating properties where one is only an adverbial modification of the other, e.g., running and running–at–ten–miles–an–hour. I think that we should accept that these are distinct properties and their exemplifications are distinct property–tokens. I will discuss later, and reject, the
idea that one token can be the exemplification of both properties.

Fourthly, Goldman ([2, p.13]) considers relational properties. This occurs when we redescribe the object of the relational property, e.g., ball $B$; it was noted earlier that this does produce different property–tokens, although these tokens are on the same level of the same tree. Chisholm’s intentional criterion has not changed this result, and I think this result is acceptable.

That concludes what I have to say about the objections, but I need to say more about properties and show another place where I prefer Chisholm to Goldman. Goldman licenses negative acts and conjunctive or compound acts ([2, p.47]), and by extension, negative and conjunctive act–properties, but no other truth-functional act–properties, i.e., disjunctive, conditional, or biconditional properties. Of course, in formal logic any disjunctive proposition can be transformed into a logically equivalent proposition containing only conjunctive and negative propositions. Goldman ([2, p.47]) agrees that such logical transformations are fine for statements, but are “not appropriate for forming new acts from other acts”. In contrast, Chisholm licenses negative, disjunctive and conjunctive properties, or what he prefers to call attributes. Since I am largely following Chisholm with regards to properties, it is worthwhile giving his definitions. ([1, pp.32f]):

The attribute $N$ is the negation of the attribute $P$ iff $D_f P$ and $N$ are necessarily such that

1. nothing can have or lack both at once;
2. whoever can have $N$ as the content of an act of believing can have $P$ as the content of an act of believing; and
3. $N$ is possibly such that it is exemplified by everything.

The attribute $D$ is a disjunction of attributes $P$ and $Q$ iff $D_f$

1. $D$ is necessarily such that for all $x$, $x$ exemplifies $D$ if and only if either $x$ exemplifies $P$ or $x$ exemplifies $Q$;
2. $P$ does not conceptually entail $D$;
3. $Q$ does not conceptually entail $D$; and
4. $D$ conceptually entails both $P$ and $Q$.

The attribute $C$ is a conjunction of attributes $P$ and $Q$ iff $D_f$

1. $C$ is necessarily such that for all $x$, $x$ exemplifies $C$ if and only if $x$ exemplifies $P$ and $x$ exemplifies $Q$;
(2) \( P \) does not conceptually entail \( C \); 
(3) \( Q \) does not conceptually entail \( C \); and 
(4) \( C \) conceptually entails both \( P \) and \( Q \).

As for biconditional properties, I cannot envisage what they might be, but I can see no philosophical basis for excluding them either. Therefore, I will allow all truth-functional properties.

This concludes what I have to say about properties and their identity conditions. What about the other challenges Thalberg set, namely, to individuate between times and substances without referring to events? I propose that we can take time as an unanalyzable primitive. My task is now limited to an identity criterion for substances. This criterion can refer to times but not to events, on pain of circularity.

The basis of any such criterion must be the spatiotemporal criterion. This says that two substances are the same if they occupy the same regions of space and time. I think that this is a necessary but not a sufficient condition because it does not individuate between \( O \) and \( O' \) where \( O' \) is the physical parts of \( O \). What, then, should we take as our substances? I suggest that it does not much matter. For most purposes we are satisfied with gross objects as the exemplifiers of secondary qualities. For other purposes, we may want to refer to the primary qualities of the corpuscles in their particular micro-structural arrangement as the causal basis of those secondary qualities. A chemist will be working with something in-between these extremes, and with chemical properties. The kind of object that you want as your substance is determined by the kind of properties that you want to predicate of it. The important thing is not to mix them up.

The result of this is that it is impossible and perhaps unintelligible to provide a criterion for individuating substances qua substance. One can only provide a criterion for individuating gross substances, or the substances of chemistry, or the substances of sub-atomic physics, or the substances of act-properties, i.e., agents. The kinds of substance are those over which the relevant properties can be projected. We should not say that John—as-agent is or is not identical to John—as-physical-system—without-intentionality, but since for each particular type only one instance can occupy a particular spatiotemporal coordinate, by referring to one you automatically fix the reference of all the others, so ‘The man who coughed (involuntarily) killed George (voluntarily)’ is not some strange kind of category mistake due to the fact the subject term seems to refer by definition to something without intentionality but
shows only that the verb ('killed') takes the referent that has been fixed to be of the appropriate type. Also, although the question of whether objects of different kinds are identical has been rendered unintelligible, the relation of mereological supervenience is intelligible and can fulfill much the same function. Eddington’s two tables are neither identical nor distinct, but their trees are nevertheless related to each other.

3 The single instance principle

We might be tempted to say, especially where predicates have been formed by redescribing the relational object or by adverbial modification of the original predicate, that there is only one property-token although it exemplifies more than one property. But this, according to Goldman, is a mistake. Each exemplification of a property is an exemplification of exactly one property ([2, p.11]). In a later paper he calls this the ‘single instance’ principle ([4, pp.68f]) and says that “the redness of a piece of paper may exemplify, or have, the property of being caused by the paper’s being dipped in red ink.” The property-token of that redness has, but is not a token of, the causal property of being dipped in red ink. The tokens of causal properties seem to be exemplified by other property-tokens rather than substances, because the causal relation is taken to be a relation between events.

Goldman stresses that we should not confuse exemplifying a property with being a token of a property. It is the substance that exemplifies a property $P$. If we use upper-case to designate properties and lower-case to designate their tokens, we can say that although $p$ is the exemplification of $P$ and $p$ can also exemplify $Q$ and $R$, it does not follow that $p$ is a token of $Q$ and $R$; in fact, $p$ cannot be a token of $Q$ and $R$. In this way, Goldman can preserve the single-instance thesis.

Thalberg objects to this way of structuring property-tokens, at least as it applies to act-tokens. He suggests that Goldman is making a linguistic stipulation that agents can exemplify any property except causal properties, and act-tokens only exemplify causal properties. He questions: “Whenever we find the act-property killing George exemplified by John, won’t we find a token of the act type, causing George’s death?” ([7, p.783]). In one sense, Thalberg is correct. We will find a token of both act-types, but only because these are identical act-types and hence Thalberg’s statement simply designates the same act-token twice. In another sense, Thalberg is incorrect since causing George’s death is not limited to being an act-type but might be exemplified by anything,
e.g., the event of a piano falling on him. Here it is not an agent but an event that exemplifies the property. Similarly the act-token performed by the agent, e.g., pulling the trigger, causes the event of George’s death and thereby exemplifies the property causing–George’s–death. We must take care not to confuse the act-type causing–George’s–death with the causal property causing–George’s–death.

We can talk about two different kinds of causation here (or rather, two different ways of expressing a causal relation): event-causation and object-causation. Event-causation is a relation between events, so this kind of relation (i.e., this kind of causal property, call it an event-causal property) can only be exemplified by an event, e.g., the act-token of John pulling the trigger exemplifies the event-causal property of causing George’s death. It is assumed that event-causation is the only genuine type of causation. Object-causation, e.g., ‘John killed George’ is a way of saying that some event or events (it may not be known what events) involving that object, e.g., John, exemplified some event-causal property, e.g., causing George’s death. This does not mean that the property exemplified by the agent (we might call this the object-causal property) is identical to the property exemplified by his act-token (the event-causal property), although either could be meant by the verb-phrase ‘caused George’s death’. What occupies the subject position disambiguates the verb.

In the previous exposition of mereological supervenience, we noted ambiguity in the subject position, but now we have to note similar ambiguity in the predicate position; you often can not tell from the verb-phrase on its own, e.g., ‘caused George’s death’, whether it designates an act-type (object-causal property) or some other (event-causal) property. When we have provided the subject term to give ‘John caused George’s death’ then we know that we are dealing with object-causation. However, as previously indicated, this is not an end to our difficulties, because ‘John’ could mean John-as-agent or John-as-physical-body, depending on whether or not John killed George intentionally. What we do know is that ‘John’ is not the name of an event.

Now we can talk about the agent performing two act-tokens, pulling a trigger and killing George, where the act-token of pulling-the-trigger causally generates the act-token of causing–George’s–death (both object-causal properties) and the first of these act-tokens also exemplifies the event-causal property of causing–George’s–death. This last is not an act-token because act-tokens can only be exemplified by agents and nothing else, not even other act-tokens of those agents. Therefore, Thal-
berg is wrong to suggest that there is stipulation here. Everything follows from the fact that acts relate agents to events and causation relates events to events.

It can easily be seen that a single movement (an event) like pulling a trigger will, through all the effects that it causes – all the event-causal relations that it enters into – also causally generate the act-tokens of John-causing-those-effects. When some John-involving event causes something, John causes something ([2, pp.23f]). For this reason amongst others, each tree is indefinitely large, and Goldman concedes that there is no way of counting property-tokens on his view, but that no method of counting is required. Despite this ontological profligacy that so many philosophers seem to object to, he responds that although there are a large number of tokens, there is not a large number of types ([3, p.773]). In fact, his is a remarkably flat ontology.

The alternative is that there is one event with different aspects. But these different aspects just seem to be equivalent to different property-tokens exemplified by the property-token, and therefore show no advantage in parsimony over Goldman’s view, but rather complicate it. On this alternative view, instead of an agent exemplifying two act-tokens, shooting George and killing George, he exemplifies the act-token shooting George, and this token exemplifies the act-token killing George. Another apparently plausible candidate for this kind of exemplification by a token is the case of adverbial modifiers. It seems plausible to say that the act-token expressed by ‘John’s saying ‘Hello’ loudly’ is a property of loudness exemplified by the act-token expressed by ‘John’s saying ‘Hello’. Despite its plausibility, nothing is really gained by this manoeuvre. We still have the same number of tokens, but have nested the tokens needlessly. It also seems to imply that killing and saying ‘Hello’ loudly are not act-types, unless we drop the principle that act-types can only be exemplified by agents.

4 Conclusion

By replacing the synonymy test with Chisholm’s intentional criterion for the identity of properties, I hope to have solved some of the problems with the property-exemplification theory and turned it into a powerful tool for the elucidation of action, events, and causality. Having at our power a plausible set of criteria for individuating property-exemplifications gives us a good reason on its own to consider acts as events and events as property-exemplifications. I do not think that any
competing theories of events can individuate events in such a satisfactory fashion. Some philosophers will no doubt continue to dig in their heels at the number of tokens that naturally result from the property–exemplification theory, but I do not see how any alternative will fare any better. Whatever theory one chooses, one will end up multiplying something or other.

A fuller analysis would of course discuss Goldman’s notion of level–generation and the problems that it involves. I do not see any serious problems here; I think that an appropriate liberalization of the category of same–levelness to absorb, for instance, augmentation generation (this is the type of generation that caters for adverbial modification), will solve most of the problems. I have also suggested that there may be an additional relation between property–exemplifications, namely mereological supervenience, and there may be more yet undiscovered.
Notes

1 Property-exemplification theories will be most familiar to the reader as a theory about the metaphysics of events derived from the work of Jaegwon Kim, but Goldman’s very similar theory was developed independently at the time of working on his doctoral thesis upon which his classic of action theory “A theory of human action” is based, where it is couched in terms of acts rather than events more generally ([2, pp.10–19]), although he considers the possible extension of this theory to events ([2, p.172].

2 This is an attack on Strawson’s claim that to be a particular involves re-identification of the particular and the only thing that can play this role is substances enduring over time. Thalberg quotes Moravscik and Davidson in support of the thesis that re-identification also necessarily involves events, e.g., when I identify a particular knife I identify it as the knife that I was holding an hour ago, the knife that I buttered my toast with etc.

3 An extensional criterion would require us to say that the properties of being a rational animal and being a featherless biped are the same, since they have the same extensions. Being a mermaid and being a unicorn would likewise be identical since they also have the same extension, namely the empty set. The intentional criterion avoids this result. When we conceiving the property of rational animal, we do not necessarily conceive the property of featherless biped.

Also, it does not depend on any belief of the thinker such that substitution of a co-referring term into the predicate position of an intensional context changes the truth-value of the content. Consider the beliefs ‘I believe that $x$ is $A$’ and ‘I believe that $x$ is $B$’, and suppose that although $A$ and $B$ are synonymous, the thinker does not know that they are, e.g., the thinker may not know that the word ‘pulchritudinous’ means the same as ‘pretty’. It does not follow that these properties are distinct. Although the thinker may not apply the word ‘pulchritudinous’, he still attributes the property ‘pulchritudinous’ to anything to which he attributes the property ‘pretty’. The same does not follow when substituting into the subject position of the context. The beliefs ‘I believe that $x$ is $A$’ and ‘I believe that $y$ is $A$’ are distinct if the thinker does not believe that $x$ and $y$ are co-referential, even if they are.

4 $P$ conceptually entails $Q$ if one necessarily conceives of $Q$ when one conceives of $P$ but one does not necessarily conceives of $P$ when one conceives of $Q$. Thus, $P$ and $Q$ are identical when each conceptually entails the other.

I am not sure that the definition for conjunctions is correct, since I think that an attribute should be identical to the conjunction of itself and any attribute that it conceptually entails, e.g., being-red is identical to being-red-and-being-colored. This situation seems to be ruled out if we do not allow one of the conjuncts to conceptually entail the conjunction, as prohibited by (2) and (3).

5 Mellor ([5, p.112]) reaches a similar conclusion: "Consider the diversity of particular things, ranging from quarks, through molecules, cells, organisms, mountains and planets, to galaxies. Why must there be a single identity criterion for things of all these kinds: why may not each kind have its own?"

6 Act-tokens thereby become the basic token of their own (event-)trees. The act-tree mereologically supervenes on the event-trees generated by their act-tokens.

7 Causal generation is one species of level-generation and represents the relation of means to ends: John shoots George as a means of killing him; John pulls the trigger as a means to shooting George.
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References


