Instantiation as Partial Identity

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Abstract: This work presents and discusses the conception of instantiation as 'partial identity'. The theory has been previously proposed in two different guises by Baxter (2001) and Armstrong (2004a). Attention will be paid mostly to Baxter's presentation, which seems the best developed, and where instantiation is understood as identity of 'aspects' of a universal and a particular. The theory seems to offer a solution to the vexed question of Bradley's Regress, because instantiation is no longer conceived as a relation between numerically different entities. The proposed solution requires an ontology of 'aspects' in order to work. Aspects are presented in the form [x insofar as φ] where x is filled by the entity to which the aspect pertains and φ is filled by the respect in which the entity in question is considered. Aspects are numerically identical with the entity to which they pertain and with the other aspects of the same entity. Aspects, nonetheless, are not mere ways in which one can conceive an entity. Aspects are objective. Rejection of the principle of indiscernibility of identicals is crucial to this theory. The attributions of one aspect are not also attributions to the other aspects of the same entity. Hence, aspects offer ways to deal with seemingly incoherent attributions to the same entity. Baxter uses them to solve the problem of the multi-location of universals, temporary intrinsics and trans-world identity, besides the nature of instantiation. Several difficulties are presented, both to the general metaphysics of aspects, and to the conception of instantiation as identity of aspects. In general: (i) it is not clear how to distinguish objective aspects from the mere forms in which we conceive an entity; (ii) it is not clear what are the conditions of identity of an aspect; and (iii) although the necessity of identity is rejected in general, it reappears as necessity of 'aspectual' identity. The necessity of aspectual identity raises concerns about the stability of the view. In respect to the specific conception of instantiation as identity of aspects, it will be pointed out that the theory implies the complete identity of universals and particulars that instantiate them and, further, that it implies the identity of everything with everything.

Key Words: Instantiation, Partial Identity, Universals, Particulars.

Many ontologies posit the existence of individual objects and of properties that comprise states of affairs, facts or situations. A state of affairs must be conceived as an object instantiating a monadic property, or as several objects instantiating a polyadic property or relation. An object *instantiating* a property, however, seems to be a relation, which would appear to lead to a regress. Let **inst** be the relation of instantiation. It can be assumed that **inst** is a multigrade relation with no distinction of different logical types. Let us suppose that the individual object *a* is F, thus:

(1) **inst** (*a*, F)

As **inst** is a relation, it must be instantiated by the ordered pair <*a*, F>, and therefore:

(2) **inst** (**inst**, <*a*, F>)

As here in (2) **inst** is again a relation, it must again be instantiated by the ordered pair **<inst**, <*a*, F>>, such that:

(3) **inst** (**inst**, **<inst**, <*a*, F>>)

etc.[1] There is reason to believe that this infinite regress is vicious. In effect, the relation of instantiation **inst** is necessary to explain the difference between the state of affairs of object *a* possessing property F and a mere class {*a*, F}, or a mere mereological fusion [*a* + F]. Suppose, for example, a possible world w_1 where it is the case that *a* is F and *b* is G, but it is not the case that *a* is G or *b* is F. Suppose further a possible world w_2 where it is the case that *a* is G and *a* is not F, and *b* is F and not G. What is the difference between w_1 and w_2? In both possible worlds objects *a* and *b* exist, as do properties F and G. The existence of an object or a

[1] The relation **inst** can instantiate in itself. Hence, there is a regress of infinite instantiations of the same relation **inst**. If one adopts instead a conception with a sequence of different relations of instantiation of different logical types, then the regress comes from infinite instantiations of different relations of different logical types. Although there are important differences between these two approaches, both are damaging for the same reasons: each new introduction of the instantiation relation – either as an occurrence of the same relation, or an occurrence of a relation of a different type – cannot explain the difference between a real state of affairs and a mere plurality, class, set or mereological sum. Therefore, the differences between those alternative conceptions of **inst** are not going to be relevant for the following discussion.

property in a possible world does not guarantee that the states of affairs of which these objects and properties are constituent are the same. A state of affairs seems to imply, therefore, an ontological addition to its constituent parts in the precise sense that it is not supervenient on the existence of these constituent parts. If the sum [a + F] is not sufficient to generate a state of affairs, it is assumed that the relation **inst** should fill this ontological gap. What occurs, however, is that the introduction of the relation **inst** is still insufficient to fill the hole, as the same difference that exists between the state of affairs of *a* possessing property F and the mereological fusion [*a* + F] is that which exists between the state of affairs of [**inst** (*a*, F)] and the fusion [*a* + F + **inst**]. To simply propose a relation of instantiation **inst** as an additional component of the state of affairs does not therefore resolve the initial problem of how to explain the difference between a state of affairs and a mere group of entities. If another relation of instantiation **inst** is included to close the gap, that is, to explain why **inst** is instantiated in <*a*, F> we again find ourselves in the same predicament. There is something missing which has yet to be resolved. Each new introduction of **inst** is a repeated failure, it demands a complement, but the complement that is available is also faulty. It thus seems that the difference between a state of affairs and a mere group cannot be explained. This problem (or something close to it) is known as "Bradley's Regress" (cf. Bradley 1897, 18, 27-28; a discussion in Vallicella 2002).

This problem has arisen as a challenge to any ontology that wishes to propose a difference between individual objects and universal properties. The truth, however, is that it can easily be seen that the same problem arises if, instead of universals, we posit individual tropes.[2] The same problem even reappears if the individual objects are replaced by sets of tropes that are co-instantiated among themselves. Assume that two tropes F_1 and G_2 are co-instantiated between themselves. The fact that they are co-instantiated means that *the same thing* that is F is also G. There is a difference however, between the set $\{F_1, G_2\}$ and the mereological sum $[F_1 + G_2]$ and the state of affairs of F_1 and G_2 being co-instantiated. What can explain this difference? A promising idea is to think that there exists a relational trope of co-instantiation **cinst** such that:

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[2] The problem, though, does not affect theories of tropes where it is essential for them to be co-instantiated with the tropes with which they are – in fact – co-instantiated. Cf. for example, Simons (1994).

(4) $\mathbf{cinst}_1 (F_1, G_2)$

But there is also a difference between $[\mathbf{cinst}_1 (F_1, G_2)]$ and the sum $[F_1 + G_2 + \mathbf{cinst}_1]$. It may therefore be thought that this could be resolved with:

(5) $\mathbf{cinst}_2 (\mathbf{cinst}_1, \langle F_1, G_2 \rangle)$

Here we have, however, the same problem. Bradley's problem therefore affects any theory that proposes an ontology of properties, whether universal or particular.

Many philosophers have tried to resolve this problem by simply rejecting that the connection between particular and property is in itself a relation[3] (cf. Armstrong 1978a, 108-111; 1989, 108-110; 1997, 116-119; Strawson 1959, 167-170; Bergmann 1967, 9-14; a general presentation of the alternatives in Vallicella 2000). There must exist, however, some independent motivation to support this and not merely the convenience of avoiding Bradley's Regress. There are reasons, on the other hand, to believe that instantiation is indeed a relation. There are many predicates that are not connected with true properties. There may exist disjunctive predicates such as "being green and being examined before the year 3000 or being blue and being examined after the year 3000", or negative predicates such as "not being a cat", which do not seem to correspond to a single property.[4] Other predicates seem to designate

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[3] Of course, these are not all conceivable alternatives for tackling the problem. Other well-known position has been to maintain that facts or states of affairs are primitive entities, not reducible to their components (whatever they are: universals, thin particulars, tropes). Cf. Hochberg (1978, 338-339), Grossmann (1983, 8). That is, our ontologies should postulate, for example, universals, particulars *and also* facts or states of affairs. A position like this one comes to a refusal to analyze or reductively explain a fact or state of affairs to something other than itself – like its ontological components. Bradley's regress does not haunt this kind of ontology and, hence, there is no further motivation in this case for Baxter's and Armstrong's proposed solutions in terms of 'partial identity'. I consider this alternative a perfectly acceptable stance on the matter but, insofar as this work is concerned with the problems of 'partial identity' proposals, it will not be considered in the discussion below.

[4] Unless, naturally, it is assumed that a "property" is the meaning of a predicate, whichever it may be. Properties will be understood here, however, as numerical entities different from the objects in which they are instantiated, and which determine objective respects of similarity and dissimilarity, that

properties that in reality do not exist, such as "being a piece of phlogiston". The predicate "x instances X"[5], however, does not seem to be one of these cases. There is a function which must be performed by that which is designated by such a predicate and which cannot be replaced by mereological sums or sets of their relata, as a state of affairs is different from such sets or fusions. First level properties are not enough, that is, properties that are directly attributed to individual objects, and those individual objects to constitute states of affairs. If the "connection" between properties and individual objects is not a relation, then what is it? Of what nature is it? How does such a connection become part of a state of affairs? Without a detailed theory on the nature of instantiation and on how it is the case that it does not constitute an ontological addition to objects and properties, it is difficult to seriously consider this strategy.

Donald Baxter (2001), and later David M. Armstrong (2004a; 2004b, 46-48), have proposed a theory that aims to explain the nature of instantiation in a way which prevents Bradley's Regress and in which the connection that establishes a state of affairs would not constitute an ontological addition to individual properties and objects. This theory requires severe ontological reforms which deserve close examination. The depth or scope of these reforms demonstrates the seriousness of the problem that arises from Bradley's Regress. This paper will firstly present the central guidelines of the proposal to conceive instantiation as "partial identity" and, secondly, certain critical considerations will be made on this idea. Attention will be placed on the theory of Baxter, more so than on that of Armstrong, as the first is better developed. When necessary, however, we will discuss the differences between one and the other formulation.[6]

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determine the causal relations in which an object possessing the property may be involved, that must enter into natural laws as relevant items for the description of the behavior of their possessors and whose discovery is a question of empirical a posteriori research. That is, we are dealing with properties that are normally denominated "sparse".

5 The variables in capital letters 'X', 'Y', 'Z', etc. will have a range of universal properties.

6 The criticisms that will be presented here are complementary of those presented in Mantegnani (2011). Mantegnani focuses on the ability of 'aspects' (Baxter) or 'overlaps' (Armstrong) to account for Bradley's problem. He contends that the existence of aspects or of overlaps is as required of expla-

1 Metaphysics of aspects

Suppose that together with properties and objects we could identify "aspects", both in the objects and in the properties. The fact that an object or a property possesses an "aspect" can mean that there are certain true properties of an object or property, but that they are not true of this same object or property under a different "aspect". Baxter's central intuition is that once armed with a properly understood ontology of "aspects", it would be possible to state that instantiation is identity of aspects. One of the aspects of property F is an object *a* in which it is instantiated. One of the aspects of an object *a* is a property F that it instantiates. Let these aspects be f_1 and f_2. The fact that *a* instantiates F is the fact that $[f_1 = f_2]$.[7] Identity in an aspect is an objective trait of the world rather than a simple projection of our conceptual resources or our discourse. Identities of aspects are those that constitute the states of affairs or facts. Identity, however, is not an ontological addition to objects and properties. This of course requires considerable elaboration.

What is an "aspect"? There is no explicit definition in Baxter, but the notion is characterized through the indication of several cases in which it would operate. One of these cases is instantiation, but another is the problem of multi-location of universals (cf. Baxter 2001, 450-454). If it is not possible that an entity is entirely located in two different areas of space at the same time[8] and if an (immanent) universal has to be found

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nation as the states of affairs that raised initially the problem for the believer in properties and particulars. It seems to me that there *is* an important difference here: aspects or overlaps are sufficient for the existence of states of affairs – if, in fact, instantiation is partial identity – while universals and particulars by themselves are not. In any case, the position of Mantegnani will not be discussed here.

7 The sign of identity '=' will be used freely to connect objects, aspects of objects, aspects of properties, and properties. This might seem a category mistake because the identity sign is flanked by expressions denoting objects. Baxter's idea, nonetheless, is that aspects are literally identical to the object or property of which they are an aspect and instantiation is identity of aspects of a universal and a particular.

8 Of course, it is perfectly possible that an entity is found in separate regions if it has different parts, each of which is located in different regions of space that are disjoint. The problem here is that an entire entity, with all its parts is located entirely in different separate regions of space at the same moment in time (meaning that each part of the entity in question must be found in different separate regions of space at the same moment in time).

in its entirety in each of its instantiations, then it seems impossible that immanent universals exist, supposing that the universal has more than one instantiation at any one point in time. Some people have discarded this argument, quickly stating that the principle that prohibits multi-location is only applicable to particular objects, and not to universals. Another strategy to neutralize this argument is to posit several different aspects in a universal. Let r_1 and r_2 be disjoint regions in space. Let there exist a universal F. The following aspects will arise.

(1) (F insofar as it is located in r_1)
(2) (F insofar as it is located in r_2)

The clause *insofar as* is the way to specify an aspect of the universal (cf. Baxter 2001, 449-450). That which is located is the universal under an aspect and this aspect is not multi-located. Aspect (1) is not located in any region other than r_1 and, in the same way, aspect (2) is not located in any region other than r_2.

Baxter states that aspects are numerically identical between themselves and numerically identical with the universal of which they are an aspect. This may seem surprising. If the universal and its aspects are *really* the same, then how is it possible that the introduction of aspects could resolve the multi-location problem? We may be inclined to think that if the distinction between different aspects is not *real*, then it must be a *mental* distinction, which would depend only on the way in which we access reality. This would mean a similar distinction to that which exists between the Morning Star and the Evening Star, that is, the distinction between the planet Venus when it can be seen before dawn and the same planet Venus when it can be seen after dusk. Baxter says, however, that not all distinctions are real or mental, as there also exist *formal* distinctions as proposed by John Duns Scotus (1639, I dist. 33, q. 2; cf. King 1992) among different *formalitates* (cf. Baxter 2001, 451). Baxter reads:

> [T]here would be contradiction only if it were the case that the universal insofar as it is here is here, and yet also the universal insofar as it is everywhere that it is, is not here. But nothing I've said entails this contradiction. The universal is not here only insofar as it is some of the places it is, not all. Thus the theory does not contradict Leibniz's Law, which basically is a complicated way of saying that no contradictions are true. All I've said is that something can differ

> from itself, not that there is a contradiction true of it. We tend not to distinguish these because we tend imprecisely to think of Leibniz's Law as the 'indiscernibility of identicals'. (Baxter 2001, 452)

This merits a more detailed explanation. If there is numerical identity between an entity and its aspects, then it would seem that this can lead to a contradiction, assuming that it is not possible for an entity to be located in two separate regions in space at the same time. In effect:

(3) [F = (F insofar as it is located in r_1)]
(4) [F = (F insofar as it is located in r_2)]
(5) [(F insofar as it is located in r_1) = (F insofar as it is located in r_2)]

It is assumed that (F insofar as it is located in r_1) is not located in r_2. If it is impossible for something to be located in two different and separate places at the same time, then the fact that F is located in r_1 implies that it is not located in any other region in space, including r_2. But, due to the indiscernibility of identicals, it follows that:

(6) ((F insofar as it is located in r_1) = (F insofar as it is located in r_2)) $\rightarrow \forall X$ [((F insofar as it is located in r_1) is X) $\leftrightarrow$ ((F insofar as it is located in r_2) is X)]

But then (F insofar as it is located in r_2) must have all the properties that (F insofar as it is located in r_1) has. But again, (F insofar as it is located in r_1) is located in r_1, and so (F insofar as it is located in r_2) is located in r_1. This is exactly what prohibits the principle that rejects multi-location, as according to this principle (F insofar as it is located in r_2) is not located in r_1. Hence contradiction.

How can appealing to aspects that have a 'formal' distinction between them resolve this problem? It is crucial that the differences between universals and aspects must not *imply* a contradiction, while respecting the numerical identity between both. Therefore, what we should deny is (6). The fact that two entities are identical must not imply that all properties possessed by one of them must be possessed by the other. The only condition we must demand is that it not be the case that a single entity has and does not have the same attributes. Assume we replace (6) for a weaker principle such as the following:

(7) $\neg\exists X$ [((F insofar as it is located in r_1) is X) $\wedge$ $\neg$((F insofar as it is located in r_1) is X)]

A similar condition should be posited for (F insofar as it is located in r_2).[9] With the rejection of (6), premises (3) and (5) no longer imply that all the true attributes of universal F are also true of their aspects, nor do they imply that the true attributes of an aspect are true of the remaining aspects and of the universal of which they are aspects. The true attributes of each aspect do not pass to the other aspects. Thus it is true that (F insofar as it is located in r_1) is not located in r_2, but the numerical identity of (F insofar as it is located in r_1) with (F insofar as it is located in r_2) does not imply that (F insofar as it is located in r_2) is not located in r_2.

For Baxter, it is also possible to discern aspects in particular objects.[10] Baxter proposes turning to the aspects of an object to explain how an object can change over time and how modal attributions *de re* can be made to an object (cf. Baxter 2001, 459-460; 1989). Let object *a* change between t_1 and t_2 from not being F to being F. If F is an intrinsic property, this has been presented as a contradiction, as it cannot be the case that ¬F*a* and F*a* (cf. Lewis 1986, 202-204). It is possible that *a* is not in a certain relation with time t_1 and that it is in this relation with t_2, but by hypothesis, F is an intrinsic property and not a relation. In the same way, it has been seen by some that there would be a contradiction in holding that *a* is actually not F, but could be F, if F is an intrinsic property (cf. Lewis 1986, 198-202). The object could not be in a relation with the actual world, w_A, and be in relation with another world w_2, but F is, by hypothesis, an intrinsic property and not a relation. We shall consider this temporal case. Baxter invites us to consider two aspects in object *a*, as follows:

(8) (*a* insofar as it is in t_1)
(9) (*a* insofar as it is in t_2)

Just as with the case of multi-location of a universal, it must be assumed that:

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[9] They should be seen as universal instantiations of $[\forall x \forall X \neg((x \text{ is } X) \wedge \neg(x \text{ is } X))]$.

[10] Different aspects of an object may seem very similar to tropes instantiated in that object – and, even, ontological dependent on that object, as proposed by Heil (2003, 137-150) – but aspects are not tropes. Tropes are numerically different from the object in which they are instantiated or from the bundle to which it pertains. Aspects are numerically identical to the object of which they belong.

(10) a = (a insofar as it is in t_1)
(11) a = (a insofar as it is in t_2)
(12) (a insofar as it is in t_1) = (a insofar as it is in t_2)

The contradiction would arise because:

(13) ¬[(a insofar as it is in t_1) is F]
(14) [(a insofar as it is in t_2) is F]

But if identity (12) between (a insofar as it is in t_1) and (a insofar as it is in t_2) must imply that all properties possessed by one of these aspects must be possessed by the other, then it should follow that (a insofar as it is in t_1) is F, hence (a insofar as it is in t_2) is F, which explicitly contradicts (13). The crucial maneuver of Baxter, therefore, is to deny that:

(15) ((a insofar as it is in t_1) = (a insofar as it is in t_2)) → ∀X [((a insofar as it is in t_1) is X) ↔ ((a insofar as it is in t_2) is X)]

The attributions to one of the aspects do not pass to the other, and with this, the contradictions are avoided, while at the same time allowing object a to 'differ' from itself, by possessing different aspects with different true attributions for each one. Baxter for the case of *de re* modal attributions posits something similar.[11]

2 Instantiation as identity of aspects

The central idea of Baxter is to conceive instantiation as an identity of aspects in a particular and a universal. Let object a be F. Let the following aspects be:

(16) (a insofar as it is F)
(17) (F insofar as it is in a)

The instantiation of F in a is the fact that:

[11] Let there be object a in w_A that is not F, but in w_2 ($w_2 \neq w_A$) a is F. There are two aspects (a insofar as it is in w_A) and (a insofar as it is in w_2). [a = (a insofar as it is in w_A)], [a = (a insofar as it is in w_2)] and [(a insofar as it is in w_A) = (a insofar as w_2)]. It follows that (a insofar as it is in w_A) is not F, but (a insofar as it is in w_2) is F. It is not the case, however, that [((a insofar as it is in w_A) = (a insofar as it is in w_2)) → ∀X (((a insofar as it is in w_A) is X) ↔ ((a insofar as it is in w_2) is X))]. Therefore, the true attributions of one of the aspects do not pass to the other and no contradiction arises.

(18) (a insofar as it is F) = (F insofar as it is in a)

The universal in question will have different aspects due to the different particulars in which it is found and the particular will possess different aspects due to the different properties that it possesses.

If we wish, we can represent this in a matrix in which the rows represent the universals and the columns represent the particulars. Some of the resulting cells will be full, other will be empty. The full cells represent the actual states of affairs:

	a_1	a_2	a_3	a_4
F_1		●		●
F_2	●	●		
F_3			●	●
F_4	●		●	

For example, object a_2 possesses an aspect insofar as it is F_2. The universal F_2 possesses an aspect insofar as it is in a_2. This is the same aspect, the state of affairs of a_2 possessing the universal F_2, though contemplated from the perspective of a_2 or contemplated from the perspective of F_2. Universals and particulars are the result of different 'counts' (cf. Underwood 2010, 266-269; Baxter 2001, 454-456; 1988). Under one count, for example, a_2 and a_4 count as one insofar as they share the same universal F_1. They are both aspects of the same universal. F_1 and F_2 count as one, on the other hand, insofar as they are instantiated by the same particular a_2. They are both aspects of the same particular.

Baxter uses the term "partial identity" to designate this identity of aspects, but this does not mean to state that the aspects of a particular or the aspects of a universal are literally 'parts' of the respective particular or universal. Armstrong, on the other hand, is more inclined to take a more serious stance on the identity in question being identity between 'parts' of the universal and of the particular (cf. Armstrong 2004a, 144-147). Instantiation here is a kind of 'overlapping' of particular and universal.[12] Armstrong is also inclined to think of the matrix shown above as a specification of the *nature* of the particulars and universals involved. That is, it would be the case that a universal or a particular is nothing more than what is shown in the matrix (cf. Arm-

[12] In standard mereology, objects x and y overlap each other if and only if there is a least one (improper) part of x that is also part of y.

strong 2004a, 142-144). For the time being it is not possible for the relation "something being part of something" to be treated in accordance with standard mereology. In standard mereology the overlapping of two non-identical objects *a* and *b*, demands that there are parts of *a* that are not part of *b* and that there are parts of *b* that are not parts of *a*. Let us suppose, however, a possible world w in which there is only one object *c* instantiating a sole universal F. In w there would not be any other 'parts' of *c* other than that which overlaps with the universal F, as there would also not be 'parts' of F other than that which overlaps with object *c*. We would not want to say however, that [*c* = F]. On the other hand, in standard mereology there are arbitrary fusions. Every fusion of particulars should be instantiating a single universal, as every fusion of universals should be instantiated by something. None of these consequences are reasonable for a metaphysics of states of affairs.

In Armstrong's formulation it again occurs that the universals instantiating an object would be essential to the object, and this would equally mean that the instantiation of a universal by the particulars that instantiate it would also be essential to that universal.[13] Given that the matrix of overlapping shows the nature of universals and particulars, as they are no more than the 'fusion' of said parts, any modification in terms of which universals an object instantiates or in terms of which particulars instantiate a universal modifies the identity of the respective particular or universal. Furthermore, since the identity of a particular object depends on the universals it is instantiating (which are its 'parts') and that the identity of the universal then depends on all the particulars that instantiate it, the modification of only *one* of the cells of the matrix would be enough to change the identity of *all* the entities that appear in it, whether particular or universal. This is a highly counter-intuitive result.

There are several ways in which this counter-intuitive result can be repaired. For example, we can appeal to the counterparts of objects and of properties to assign truth conditions to *de re* modal attributions. We

[13] In reality, if the 'parts' in question are those spoken of in standard extensional mereology, then the identity conditions of an object or of a universal, which would be mereological sums of the 'parts', would be established by them. Since the 'parts' in question are, however, not those of standard mereology, it is not at all clear that the 'parts' are essential, at least, not while no precise meaning is given to how the 'parts' constitute particulars and universals. This definition has not yet been made.

can also assume that the matrix which gives us objects and properties is established by actual entities and entities that are merely possible. These solutions come at a price, naturally. We would require a domain of previously given possible entities in order to form objects and properties. Many authors, however, aim to generate the entire space of what is metaphysically necessary and what is metaphysically possible by using properties (cf. Forrest 1986). On the other hand, many authors wish to preserve our ordinary modal intuitions according to which when, for example, object *a* is attributed the possibility of being F, this does not aim to say that there is something similar to *a* that is F, but that under some alternative way in which things might be, *a*, the same object, would be F. In the same way, many authors consider it unacceptable that *a* could be different from *a*.[14]

Baxter seems to have advantages here. In his conception he does not aim to state that the aspects possessed by a universal or by a particular are essential to it. The theory of aspects is not a theory about the essence of universals or particulars. However it is conceptualized, recourse to aspects of a universal or a particular could be of service, as shown above, in explaining how it is that the same universal in different possible worlds possesses different instantiations, just as a particular object can instantiate different universals in different possible worlds. The same universal F, for example, can possess the aspects:

(19) (F insofar as it is in w_1)
(20) (F insofar as it is in w_2)

Aspect (19) will be instantiated by object *a* and aspect (20) will not be instantiated by object *a*. According to the principles indicated above, this will not imply a contradiction as the true attributions of aspect (19) will not be passed to aspect (20). Something similar could be posited for particulars.

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[14] That is, *a* is such that it is possibly different from *a*, although it is not possible that *a* is different from *a*. Let a modal property be $[\lambda x \Diamond(x \neq a)]$. Object *a* possesses this property, if truth conditions are assigned to these statements via counterparts, simply because *a* has counterparts that are different from *a* (all counterparts are), although it is not the case that $[\Diamond(a \neq a)]$, that is, in no possible world does *a* have a counterpart that is different from itself. Cf. for these and other problems, Plantinga (1974, 108-120).

3 Difficulties for the ontology of aspects

In this section we will look at some general difficulties for the ontology of aspects. That is, difficulties that not only affect the thesis that instantiation is the partial identity of aspects, but also the other uses that Baxter has given to their ontology: explanation of the multi-location of universals, explanation of the change of an object over time and explanation of the contingent properties of an object. If there are general reasons to doubt the existence of aspects, then there would hardly be any use for the conception of instantiation as identity of aspects. There are at least three difficulties: (a) What differentiates an aspect from a mere mental distinction?; (b) What are the identity conditions of an aspect?; and (c) Is identity among aspects necessary?

3.1 Aspects and pseudo-aspects

Following the line of the proposals of Duns Scotus, Baxter has gone on to say that not only are there real distinctions and mental distinctions, but that formal distinctions also exist. The latter give rise to aspects. If there is a real distinction between two entities, then it must be assumed that these entities are numerically different from each other. If there is a purely mental distinction between two putative entities, on the other hand, then there is only a different way to conceptualize or understand the same reality. This is different "ways of appearing" of something numerically unitary. The morning star differs mentally from the evening star because someone may believe that the morning star is visible before dawn but not believe that the evening star is visible before dawn. The morning star cannot, however, be both visible before dawn and not visible before dawn. There are not really two entities but only one, and there are no true contradictions of this single entity. Merely mental distinctions[15] are those that can cause an agent to believe something contradictory, that is, they are those distinctions that can cause an agent to believe that a single object, let us say *b*, is F and is not

[15] In effect, if there is a real distinction between *a* and *b*, then there is a mental distinction between *a* and *b*. If there is a mental distinction between *a* and *b* it does not follow that there is also a real distinction between *a* and *b*. A mental distinction is compatible with the existence of a real distinction or with the existence of formal identity. A mental distinction of actually identical entities is a merely mental distinction.

F.[16] Contradictory attributions to a single object are, in the case of the existence of a merely mental distinction, erroneous. They arise solely due to the ignorance of the subject in question of the real identity of an entity that appears in two or more different forms.

On the other hand, in the case of a formal distinction, this is a difference that is not simply a product of two different ways of something appearing to our consideration. It is not simply a source of potential errors. It is an objective distinction, in the sense that it does not supervene on our powers of discrimination, but, however, it is not a real distinction between numerically different entities. A merely formal distinction[17] in a numerically single entity discriminates objective aspects in it. As was seen above, the existence of different aspects of the same entity would allow true attributions to be made on an aspect which are not true of other aspects. What appear to be contradictory attributions to a single entity are shown here as perfectly acceptable attributions to different aspects of the same entity. If aspects exist, as Baxter holds, it is crucial therefore to carefully differentiate these objective aspects from a mere way something presents itself. We must be able to differentiate a formal distinction from a merely mental distinction.[18]

In the indications of Baxter there are no explicit details on this question, but it is in any case of the upmost importance. How should this distinction be made? In which cases are we truly in the presence of an objective aspect of an entity and in which cases are we in the presence of a mere form in which that entity appears to our comprehension? It may be suggested that an aspect arises when an entity possesses some intrinsic property. The mere forms that appear to our comprehension are, on the other hand, extrinsic determinations of the entity in ques-

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16 Of course, it is not the case that the agent believes that: [(*b* is F) ∧ ¬(*b* is F)], but that he/she has the *de re* belief that the single object *b* falls under [λx (x is F)] and not under [λx (x is F)].

17 A real distinction implies a formal distinction. A formal distinction does not imply a real distinction, but it is compatible with it. A formal distinction that is not accompanied by a real distinction is a merely formal distinction. These are those that are offered by different aspects. Similarly, a formal distinction implies a mental distinction, but a mental distinction does not imply a formal distinction, but it is compatible with it.

18 We must also be able to distinguish cases when linguistic expressions in our languages are correlated with different objective aspects, and when that is not the case.

tion. However, the spatial location of a universal, and the instantiations of a universal are extrinsic determinations for the universal. If these are authentic examples of objective aspects, then there are extrinsic properties that induce objective aspects. Not all extrinsic properties, however, can determine an objective aspect, because then all forms in which an entity appears to our comprehension would determine an objective aspect and the distinction between objective aspects and the mere forms in which entities appear to our comprehension would disappear. In effect, if, for example, the morning star presents itself as a heavenly body visible before dawn, then the morning star is such that it is visible before dawn, which will not happen in possible worlds in which there is not something similar to 'dawn' in which the heavenly body can be seen, nor in possible worlds where there are no creatures capable of 'seeing' heavenly bodies. The attribution being visible before dawn is, therefore, extrinsic.[19]

What we can also see here is that not all intrinsic properties can be taken as determining the existence of an objective aspect. If this were the case, it would be possible to admit any contradictory state of affairs in the world, if we posit appropriate aspects. It seems intuitively correct to hold that if an object possesses the exact shape of a cube, then it does not possess the exact shape of a sphere. If it has the exact shape of a sphere, then it does not have the exact shape of a cube. Having the shape of a cube and having the shape of a sphere are intrinsic properties that are incompatible with each other. To propose that an object *a* is a cube, and is at the same time, a sphere, seems incoherent. Why not then include aspects in this situation to resolve the question? Let the aspects be:

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[19] There is another much more telling objection against aspects based on extrinsic properties. How can 'extrinsic' factors be 'identical' with something? If there is an aspect like [F insofar as it is in *r*], then something identical to F includes or involves region *r*. Then, it seems that – somehow – region *r* should be 'included in' or 'involved in' F. But, *ex hypothesi*, it is something extrinsic to F. An anonymous referee has proposed this objection. There seems to be two alternatives for Baxter: either the location of a universal is not one of its real aspects, or the location is not an intrinsic property. The first alternative makes useless all the machinery of aspects for the problem of the multi-location of universals. The second is very counter-intuitive. This argument can be generalized with respect to every extrinsic property. Hence, it seems that extrinsic properties – authentic extrinsic properties – cannot determine different objective aspects.

(21) (*a* insofar as it is a cube)
(22) (*a* insofar as it is a sphere)

As with the previous cases, we can deny that [((*a* insofar as it is a cube) = (*a* insofar as it is a sphere)) → ∀X (((*a* insofar as it is a cube) is X) ↔ ((*a* insofar as it is a sphere) is X))]. Although, [*a* = (*a* insofar as it is a cube)], [*a* = (*a* insofar as it is a sphere)] and [(*a* insofar as it is a cube) = (*a* insofar as it is a sphere)], it does not follow that all determinations of (*a* insofar as it is a cube) are also attributable to (*a* insofar as it is a sphere). Hence, (*a* insofar as it is a cube) is a cube and, therefore, it is not a sphere. From this it does not follow that (*a* insofar as it is a sphere) is a cube, and therefore, that it is not a sphere. This is a general problem, for example, if there are multi-locations for universals, this may also be attributed to particular objects. It seems, in effect, intuitively that a physical object cannot be located entirely in two separate regions of space. Given this principle, if an object *b* is located entirely in region r_1 which is separate from region r_2, then it is not located in region r_2. Similarly, if it is located in region r_2 then it is not located in region r_1. But here the aspects (*b* insofar as it is located in r_1) and (*b* insofar as it is located in r_2) can come to the rescue.

The admission of aspects en mass would, therefore, be disastrous. It would be far too easy to make space for any incoherence. It is necessary to be able to discriminate authentic aspects from spurious ones, but making such a distinction in a non-arbitrary and non-*ad hoc* way does not seem simple. While this distinction is not made, the entire metaphysics of aspects must be treated with extreme caution.

3.2 Conditions of identity of aspects

One difficulty that is closely tied to the one described above is the question on the identity conditions of an aspect. Of course, we do not aim to say that only that which has precise identity conditions can be guaranteed to exist. This requirement would make it too easy to deny the existence of tables, chairs and also human beings. This does not mean however that the question of what the identity conditions of a category of entities are is an ontological question of little importance. On the contrary, in this case the question is far more serious, as Baxter expressly holds that the aspects of an entity are identical to the entity of which they are aspects and to each other. Let there be an object *b*, and let object *b* have two different aspects, f_1 and f_2. These aspects should be

seen in the form [b insofar as φ]. The general theory is that [$b = f_1$], [$b = f_2$] and [$f_1 = f_2$]. With this, all we need to ask about two aspects f_1 and f_2 is if they are aspects of the same entity or not. If they are, then there are no further questions to be asked about their identity or their difference, as they are automatically identical. The identity of two aspects to each other does not imply that all determinations made on an entity under an aspect are also attributable to that entity under a different aspect. It is crucial here, however, to be able to precisely determine when the aspects in question are *different* from each other. If not, we would have a contradiction. Baxter, however, holds that when the aspects are objectively different from each other, there is no contradiction if there are incompatible determinations between them but on objectively different aspects.

As can be seen, then, even when Baxter holds that all aspects of a single entity are identical, it is necessary to be exact on when these aspects are different in order to separate authentic contradictions from false contradictions. If there is a difference between aspects of the same entity, then there is also the negation of the difference. This is usually called "identity", but as Baxter says that there are no different identities between aspects of the same object, perhaps another name should be used for this relation, perhaps 'aspectual identity'. The problem is, then, that of saying exactly what the conditions of the aspectual identity of aspects are. Let '≈' be aspectual identity, then we are looking for the following:

(23) $\forall f_1 \forall f_2 \, [(f_1 \approx f_2) \leftrightarrow ((f_1 \text{ is C}) \leftrightarrow (f_2 \text{ is C}))]$

Here the variables f_1 and f_2 have as range aspects. What we are looking for is which condition C would support the (aspectual) identity of the two aspects. A promising way to specify these identity conditions is to turn to a principle of aspectual identity of indiscernibles. That is, two aspects are the same aspect if and only if all attributions to one of them must be attributions to the other. The content of this principle could be:

(24) $\forall f_1 \forall f_2 \, [(f_1 \approx f_2) \leftrightarrow \forall X \, ((f_1 \text{ is X}) \leftrightarrow (f_2 \text{ is X}))]$

Remember that in the conception of Baxter the introduction of aspects of the same entity is motivated precisely by a wish to authorize incompatible determinations for the same entity under objectively different aspects. The determinations of an aspect cannot be passed to other aspects of the same entity. It can be held, then, that two aspects are ob-

jectively the same aspect if and only if any determination of one is also true of the other.

This principle of aspectual identity (24) seems false however. Let us suppose a possible world w_1 with two indiscernible objects. For example, let us suppose two perfect spheres, e_1 and e_2, a distance d apart. Any intrinsic property of one of these spheres will also be a property of the other. All extrinsic 'pure' properties will also be common to both.[20] Take an aspect of e_1 and there will be an aspect in e_2 for which all that may be said of e_1 is also true. This would aspectually identify the aspects of e_1 and of e_2, which would also imply identity between e_1 and e_2, which goes against the hypothesis.[21] It may be thought that a way to discriminate e_1 from e_2 would be by their location in different regions of space. Thus sphere e_1 would be located in, for example, region r_1 and this would differentiate it from sphere e_2 located in region r_2 ($r_1 \neq r_2$). When there is a difference between e_1 and e_2 then, *eo ipso*, there will be a difference between the aspects of one sphere and another. The problem is that this will not work if we accept a relationist conception of space, where space is supervenient on the relations of location between objects. This could only work if space is admitted as an entity in itself, not supervenient on the relations of location. In this case, however, it is possible to develop an analogous argument for the regions in question r_1 and r_2, as it will also be true of the aspects of the regions that they share all the same determinations and, therefore, that they would then be aspectually identical. That is, if space is an entity in itself, ontologically basic, its regions will also be such. These regions will have aspects. How can we discriminate between region r_1 and region r_2? It is not possible to differentiate r_1 from r_2 because a perfect sphere is lo-

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20 A property is 'pure' if and only if it does not contain a specific individual that cannot be eliminated through the indication of which properties the individual instantiates. A property is 'impure' if and only if it is not pure. The property of being a distance d from sphere e_1 is an impure property as it contains an individual object e_1. The property of being a distance d from a perfect sphere, on the other hand, is a pure property. If impure properties are admitted as forms of differentiation, then the spheres can easily be discriminated between, as e_1, for example, will have the property $[\lambda x\ (x = e_1)]$ and e_2 will not have the same property.

21 In effect, if $[e_1 = (e_1 \text{ insofar as } \varphi)]$, $[e_2 = (e_2 \text{ insofar as } \varphi)]$ and $[(e_1 \text{ insofar as } \varphi) \approx (e_2 \text{ insofar as } \varphi)]$, then $[e_1 = e_2]$, as $[(e_1 \text{ insofar as } \varphi) \approx (e_2 \text{ insofar as } \varphi)]$ implies that $[(e_1 \text{ insofar as } \varphi) = (e_2 \text{ insofar as } \varphi)]$. Aspectual identity is stronger than mere identity and it presupposes it.

cated in the region, as the same is true of region r_2. The regions must be differentiated, if it can be done at all, because e_1 is located in one of them and e_2 is not, while e_2 is located in the other and e_1 is not. This brings us back to the original problem, because there are no pure universal properties that differentiate e_1 and e_2.

There are ways to resolve this problem. An alternative would be to include *haecceitates* in the relevant properties in the range of quantifier on the right of biconditional (24) such as the property [λx ($x = e_1$)]. Another possibility would be to impose an additional condition on (24) such that it is a necessary condition for aspectual identity of two aspects that they are aspects of the same entity. The reformed principle would be as follows:

(25) $\forall f_1 \forall f_2 [(f_1 \approx f_2) \leftrightarrow \exists x \forall X ((f_1$ is an aspect of x) $\wedge$ (f_2 is an aspect of x) $\wedge$ ((f_1 is X) $\leftrightarrow$ (f_2 is X))]

Even supposing you resolve these difficulties using these strategies or some other, there seems to be a more fundamental problem here. The principle of aspectual identity seems to leave us in the dark as to *why* it is that all determinations of an aspect f_1 are also determinations of f_2, if they are aspectually identical. In effect, for Baxter identities in general do not allow us to admit this mutual crossover. When we are in the presence of different aspects of the same entity, then the incompatible determinations of these aspects do not become a real contradiction. If, on the other hand, we are dealing with a single aspect, then the incompatible determinations do become a real contradiction. We can discriminate between an apparent contradiction and a real one precisely by the fact that we should be able to discriminate between different or identical aspects of the same entity. When we are going to make this discrimination armed with principle (24) (or (25)), however, the aspects will be identical if all determinations can pass between each other. If there is at least one different determination, then the aspects are different. When dealing with determinations that are incompatible with each other, however, if they all apply to two aspects, this is *already* a contradiction. Hence, independent principles do not specify the condition of aspectual identity in order to later judge if a contradiction is apparent or real, but rather the application of determinations to a single aspect or several aspects, contradictions included, is the criterion. Our intuition on whether or not an attribute applies to an aspect is our guide in this. When dealing with incompatible attributes our intuition will be very

inclined to deny that they all apply to the same aspect, however. Is it not a strong temptation to state that whenever we are in the presence of incompatible determinations they must belong to different aspects, precisely because they are incompatible? Any reasoning by *reductio* that leads to the conclusion that a single entity would have incompatible determinations can be neutralized by simply positing different aspects that convert the contradiction into an apparent contradiction. Our intuition, however, is that there are incoherent hypotheses and that such hypotheses should be rejected. Liberal application of the ontology of aspects could lead to acceptance of the coherence of anything.

It is, therefore, imperative to present precise principles for aspectual identity that are more informative than (24) or (25), but it is not at all clear as to how such principles should be specified. Until this has been done, the ontology of aspects must be treated with extreme caution.

3.3 The necessity of identity

In contemporary ontological discussion it has generally been assumed that identities are necessary. How does this assumption work with the metaphysics of aspects? The reasoning used to justify the necessity of identity depends on the principle of the indiscernibility of identicals. In effect, let us suppose that $[a = b]$. It is obvious that $[\Box(a = a)]$. The object a, therefore, has the property $[\lambda x\, \Box(a = x)]$, meaning that:

(26) $(a = b) \rightarrow \forall X\, ((a \text{ is } X) \leftrightarrow (b \text{ is } X))$

If the property $[\lambda x\, \Box(a = x)]$ is in the range possessed by the quantifier in the consequent of (26), then b must have the said property, and therefore $[\Box(a = b)]$. Precisely the key to the systematic function fulfilled by the aspects is the negation of principles such as (26), thus stopping the same determination being attributable to aspects that are different from each other. If (25) falls, then the need for identity falls along with it. This leaves the door open for objects to freely vary their aspects in different possible worlds.

In accordance with the above, however, there is an area in which a principle of indiscernibility does work but only for aspectual identity. That is:

(27) $\forall f_1 \forall f_2\, [(f_1 \approx f_2) \rightarrow \forall X\, ((f_1 \text{ is } X) \leftrightarrow (f_2 \text{ is } X))]$

This principle is much weaker than the (necessary and sufficient) identity conditions in (24) and (25), and it is not affected by their problems.

An analogous line of reasoning to the general question of the necessity of identity could be developed for aspectual identity. Let:

(28) (a insofar as φ) $\approx$ (a insofar as ψ)
(29) $\Box$[(a insofar as φ) $\approx$ (a insofar as φ)]

The aspect (a insofar as φ) has the property [$\lambda x \Box((a$ insofar as $\varphi) \approx x)$]. Due to the universal instantiation of (27) it follows that:

(30) ((a insofar as φ) $\approx$ (a insofar as ψ)) $\rightarrow$ (((a insofar as φ) is [$\lambda x \Box(($a insofar as $\varphi) \approx x)$]) $\leftrightarrow$ ((a insofar as ψ) is [$\lambda x \Box(($a insofar as $\varphi) \approx x)$]))

Then:

(31) (a insofar as ψ) is [$\lambda x \Box(($a insofar as $\varphi) \approx x)$]

Which is equivalent to:

(32) $\Box$[(a insofar as φ) $\approx$ (a insofar as ψ)]

Aspectual identity is therefore necessary. A fundamental part of the motivation for the theory of Baxter is to make space for the idea that an entity can differ from itself, without this implying acceptance of contradictions. An object a, being identical to one of its aspects (a insofar as φ), will not possess all the properties attributable to that aspect and could also not have that aspect and continue to be the same object. This is the 'machinery' in operation to offer solutions not only to the problem of how to understand instantiation, but also to the problem of the multi-location of universals, the change over time of an object or the contingency of attributions to an object. Rejection of the principle of indiscernibility of identicals and of the necessity of identity are fundamental pieces of this 'machinery'. However, when examining this conception it appears that general rejection of the necessity of identity and of the indiscernibility of identicals can be done but through the introduction of principles that are analogous on a deeper level, this time as indiscernibility of *aspectually* identical aspects and as the necessity of *aspectual* identity. We can ask the question at this point as to whether this is not a betrayal of the initial motivation and whether aspectual identity with these characteristics would not generate certain instability in the general conception.

The question is the following: it is held that objects (and the same goes *mutatis mutandis* for properties) can differ from themselves. This

occurs because there are different aspects of the object via which it may or may not be identified and with which it does not communicate all attributes. The aspects that are precisely those that allow this result, however, cannot differ from themselves and are necessarily identical to themselves (with aspectual identity). Why? Why do aspects have this degree of inflexibility which other entities lack? Would it not be more reasonable to hold that all entities, without distinction, can differ from themselves, can have different aspects via which they may or may not be identified? That is, just as an object can have different aspects, an aspect can also have different aspects; aspects of aspects that, therefore, can also have different aspects.

If we are going to posit such a radical distinction between aspects and the entities of which they are aspects, there should be some independent motivation. The proposal of an ontology of aspects should supplement this motivation, but this has not been the case. This is especially urgent when considering that if we accept that there is no domain of entities for which the necessity of identity (aspectual or of any other kind) and the indiscernibility of identicals works, then the theory would become completely innocuous to rejecting anything as incoherent. As shown above, discrimination of real contradictions from apparent ones depends on being able to discern whether or not incompatible determinations apply to the same (putative) aspect. An overly liberal conception of aspects, however, could always posit new aspects of aspects to convert the incoherence in another case of attributions to different aspects. As with the cases above, this is not a definitive objection. This point requires further development and greater precision, but it also means that the entire ontology of aspects must be taken with extreme caution.

4 Difficulties for instantiation as identity of aspects

As has been shown, there exists a series of difficulties for the general ontology of aspects. There are also difficulties for the intelligibility of the specific conception of instantiation as 'partial' identity, that is, as identity of aspects. If we remember, the fundamental idea is to think of instantiation not as an authentic relation between different entities, but as identity between the aspect of an object and the aspect of a universal. Let the object be *a* and the universal property be F. Let there be two

aspects (*a* insofar as it is F) and (F insofar as it is in *a*). The instantiation of F by *a* is the fact that:

(33) (*a* insofar as it is F) = (F insofar as it is in *a*)

Remember, however, that according to the general conception of Baxter:

(34) *a* = (*a* insofar as it is F)
(35) F = (F insofar as it is in *a*)

Due to the transitive nature of identity (a principle not questioned by Baxter), it follows that:

(36) *a* = F

This seems extremely counter-intuitive. What alternatives does Baxter have to neutralize this result?

(a) A first alternative would be to state that the result is not that devastating, since, (i) identity is not necessary, and (ii) with this identity it is not necessary to attribute to the object or to the universal all the attributes of one of the other. With regard to (i), the point is that the identity of a with F does not imply that in all possible worlds a is F. But this identity, though only in one possible world, seems a sufficiently serious problem. Let us suppose a possible world w1 where F is instantiated by objects a, b and c and where object a instantiates properties F, G and H. Is it reasonable to say here that a and F are identical? It would seem not. With regard to (ii), the point is that the identity of a and F does not imply that each and every one of the determinations of the object will be a determination of the property F. If object a is also G and H, it does not follow that F is G and H, as the indiscernibility of identicals has been rejected. Similarly, if universal F is also instantiated by objects b and c, it does not follow that object a is instantiated by objects b and c. Here there arises, however, a far more serious problem. Consider the possible world w1 described above, where F is instantiated by the objects a, b and c, and object a instantiates properties F, G and H. By the same principles as given above it follows that:

(37) F = *b*
(38) F = *c*

Hence it also follows that:

(39) a = G
(40) a = H

Due to the transitive nature of identity it will follow that everything is identical to everything. Baxter's theory has the unexpected consequence of a radical monism.[22] Here I am not sure whether complaining that there is no crossover of attributes between different aspects is going to be sufficient consolation, as the result seems already counter-intuitive.

(b) A second alternative would be to say that the identity of aspects that instantiation represents is 'special'. That is, it should be said that, although identity is generally transitive, it is not so for the special case of instantiation, which is a form of identity of aspects. The problem of this strategy is that it has to have an independent, non-ad hoc motivation, and it is not easy to see how it could be justified. From a systematic viewpoint, it is not good that the identity of aspects that instantiation represents should receive special treatment. After all, the virtue of Baxter's theory would be precisely showing that instantiation is not a relation between different entities, but rather identity of aspects of universal and particular. If the 'identity' in question is treated in a different manner, then the idea that it is an authentic identity loses credibility.

None of these strategies, therefore, seems satisfactory for the purposes of defending the theory of instantiation as partial identity. This does not mean that other responses may not appear in the future, but while the absence of such responses persists, the wisest choice is to take the thesis of instantiation as identity of aspects at a distance.

5 Conclusions

We have presented the theory that instantiation of a property in a particular object (or rather instantiation of a relation in an n-tuple of particular objects) can be understood as 'partial identity', that is, as

[22] Objects and properties do not collapse in just one big unique entity if different objects have no properties at all in common. If a_1 is F_1 and F_2 (and nothing more), and a_2 is F_3 and F_4 (and nothing more), then it will result that $a_1 = F_1 = F_2$ and $a_2 = F_3 = F_4$, but $a_1 \neq a_2$. Several not-so-big entities instead of just one-big-unique entity is also a big problem.

identity between the aspects of the universal and of the particular involved. This theory proposed by Baxter and Armstrong would mean not having to treat instantiation as a relation between different entities, and as a result, it would avoid the difficulties generated by Bradley's Regress.

It is imperative for the intelligibility of this theory that we define what exactly an aspect is and what systematic function it generally fulfills in our ontologies. There are important differences in the proposals of Baxter and of Armstrong. The latter takes the idea that instantiation is identity of 'parts' between universal and particular much more literally, that is, that it is an overlapping of universal and particular. Universals and particulars must then be seen as fusions of these parts. There are advantages in the theory of Baxter, and for this reason attention has been more focused on his conception.

Aspects are conceived by Baxter as identical entities to those of which they are aspects, whether universals or particulars, but also that they do not share all the same attributes. A crucial part of the conception of Baxter is to reject the principle of indiscernibility of identicals as identity between two entities implies that any property possessed by one must be possessed by the other. Different aspects of the same entity can attribute incompatible properties to that entity. There is a formal distinction between them and with the entity to which they belong which is not a merely mental distinction, which aspects exist is an objective question, but neither is it a real distinction between numerically different entities. The aspects of Baxter are those which *doctor subtilis*, Duns Scotus, called *formalitates*. His proposition allows Baxter to offer systematic solutions, not only to the problem of the nature of instantiation, but also to that of a single object possessing incompatible properties at different moments in time, and also that of the multi-location of universals in their instantiations. It is, therefore, a very ambitious prospect.

A series of difficulties have come into sharp relief, both for the general ontology of aspects, and for the theory of instantiation as identity of aspects. These are not definitive difficulties, but they do represent areas which urgently need further development and precision. Firstly, there is no clarity on when we are in the presence of an authentic aspect of an entity and when we are in the presence of a mere way in which the entity appears to our comprehension. It is vital to be able to discrim-

inate between these two cases in order to be able to then discriminate between authentic contradictions and apparent contradictions. Secondly, there is no clarity on the identity conditions of an aspect by which it could be differentiated from or identified with other aspects. Here it is also fundamental to discriminate between authentic contradictions and apparent contradictions. Thirdly, although the theory seems to imply rejection of the necessity of identity, this reappears on a deeper level as the necessity of 'aspectual identity', which therefore leads to doubt on the stability of the entire ontological conception.

In addition to these general difficulties for the metaphysics of aspects there are other difficulties which arise in a particular way from the conception of instantiation as identity of aspects. The crucial question here is that, Baxter's theory does not put into question the transitive nature of identity, the identity between an aspect of a particular and an aspect of a universal would imply identity of universal and particular. Baxter cannot simply state that the universal and the particular are identical 'in part'. A consequence of his theory is a pure and simple identification. It also occurs that the same principles will lead to identity between a particular and all the universals it instantiates and identity between a universal and all the particulars that instantiate it. This in turn leads to identification of everything on one single entity. Baxter's theory has the consequence of a radical monism.

It is possible that there is some way in which the ontology of aspects can resolve or accommodate these difficulties. But until this has been done, it seems more reasonable to maintain the line of more traditional ontologies on properties, universals and particulars.[23]

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