

## SIX ONTOLOGICAL TOPICS: A DIALOGUE WITH D. M. ARMSTRONG

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### Resumen

Este texto surge de un intercambio epistolar mantenido con David Armstrong a propósito de su libro *Universals. An Opinionated Introduction*. Se presenta en forma de diálogo y ha sido dividido en seis temas.

El primero trata el problema de si las diferentes teorías ontológicas, al postular diferentes relaciones básicas (tales como la  *semejanza*, la  *instanciación* o la  *compresencia*), se hallan también en diferentes condiciones para afrontar el argumento del regreso infinito planteado por Bradley. El segundo presenta una duda. Los universales que postula Armstrong, tales como  *masa*,  *carga electromagnética*, etc., son “agregativos”: admiten la categoría de  *cantidad*. Pero se supone que los universales no admiten dicha categoría. Pareciera, pues, que los “universales” postulados por Armstrong no constituyen auténticos universales. El tercer tema concierne a la relación entre la teoría del haz y el Principio de identidad de los indiscernibles. El cuarto trata la opinión de Armstrong según la cual la teoría del haz se vería obligada a postular el carácter autosubsistente de los universales. El quinto consiste en la discusión acerca de si la teoría del haz debe admitir la existencia de  *hechos*. Finalmente, el sexto concierne a la naturaleza de los tropos.

PALABRAS CLAVE: universales, teoría del haz, indiscernibles, hechos, tropos.

### Abstract

This text originates in an exchange of letters I held with David Armstrong when his book *Universals. An Opinionated Introduction* was published. It is offered as a dialogue and has been divided into six topics.

The first one deals with the problem of whether different ontological theories, which posit different basic relations (such as  *resemblance*,  *instantiation* and  *compresence*), are also differently prepared to deal with Bradley’s infinite regress argument. The second one raises a doubt. Those universals posited by Armstrong, such as mass, electric charge, etc., are “aggregative”, which means they are subject to the category of  *quantity*. But universals are not supposed to differ quantitatively. Thus, those “universals” favored by Armstrong become suspect of not being real universals. The third one addresses the relation between the Bundle Theory and the Identity of Indiscernibles. The fourth one deals with Armstrong’s opinion according to which the bundle theorist is forced to conceive of universals as self subsistent entities. The fifth one discusses whether the Bundle Theory has to accept the existence of  *facts*. Finally, the sixth one deals with tropes. KEYWORDS: universals, bundle theory, indiscernibles, facts, tropes.

In what follows, I offer in dialogue form, part of an exchange of letters I he Id thirteen years ago, with David M. Armstrong.

I decided to present it here, (in its original language, with very few explanatory notes and amendments) since, in spite of the time passed, I consider that the different discussions (to which I added a title) and Armstrong's comments, may still be of interest.

### Ontological Theories and Bradley's Regress

JRL: When I read your *Nominalism and Realism* you convinced me that although the different varieties of Nominalism and Platonism where subject to an infinite regress, both the Bundle Theory and your "Non Relational Realism" were unaffected by it. Now having read your *Universals*<sup>1</sup> I think you are right in saying that *every* theory has to posit some kind of fundamental tie, thus being exposed to "bradelian terrorism"<sup>2</sup>. However, I still think those theories which hold that the nexus lies *within* the particular are in a better position concerning the "regress argument" than those theories (such as the different varieties of Nominalism, and Platonism) which hold that the nexus binds a particular with things which He outside it and are independent existents. I believe this opinion of mine has more force when applied to a theory like Resemblance nominalism which is forced to take the relation of resemblance as an *external relation*. For if resemblance is *external* and thus not supervenient on the nature of the terms, then as it links independent particulars, it would be undoubtedly more "substantial" -more a full blown relation- that *compreence* or *instantiation*, even though all of them would be external.

1 Armstrong (1989), *Universals: an Opinionated Introduction*, Boulder, San Francisco, London, Westview Press.

2 The Bradley inspired "fundamental relation regress argument" goes, in Armstrong's own words (Armstrong (1989), p. 54), as follows: "You take the "fundamental relation" used by a particular solution to the Problem of Universals. For Predicate Nominalism this will be *applying to* (as general words apply to objects); for Class Nominalism it will be *Class membership*; for Resemblance Nominalism, *resemblance*; for Realism about universals, *instantiation* (a thing's being an instance of a universal), You then ask how the theory is going to deal with its own fundamental relation. As Russell argued in the particular case of resemblance, the procedure leads to a regress because the fundamental relation has to be used again: applied to tokens of itself. But having been used again, it has to be analyzed again, and so ad infinitum".

DMA: y our phrase “bradelian terrorism” is a splendid joke! I will certainly adopt it (with acknowledgments). I am glad that you agree that we can’t “divide through” (among the different ontological theories) by the relation regress. I agree that those who can make it an *internal* tie have some advantage, though.

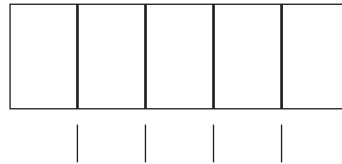
### Aggregative Universals

JRL: Most of the examples of universals you chose are aggregative: mass, weight, etc. However, I think aggregative universals are suspicious of not being true universals. The reason is that a universal doesn’t admit of the category of quantity: there is no more whiteness in a single sheet of paper than in a thousand and no more rectangularity in a single rectangular sheet of paper than in thousand. But this is not the case with aggregative universals: there is *more* weight in a hundred one kilogram objects than in a single one.

The following is an example of the strange behavior of these “universals”. If weight is included in the list of properties of my hand then, the classical problem affecting the *substratum* theory which consist in its being forced to admit the possibility of my having a hundred indiscernible hands, could be easily solved. I could notice the difference because if I had a hundred hands where I see just one, then “it” would weight a hundred times more and I would be unable to move it!

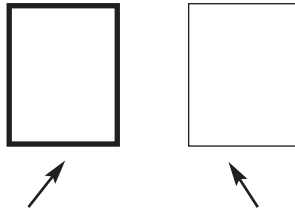
DMA: The “difficulty” you allege for aggregative universals -the detectability of a hundred hands in the very same place and time- seems to me to be an *advantage* for such universals.

But, in any case, I do not think that aggregative universals create any problem, provided we recognize that they are *structural* universals. Here is a “pictorial analysis” of *having five kilograms in mass*:



Each square represents a one kilo mass. If they can, in some possible world be all piled up in the *same* place and time, we shall

have a structure of 1 kilo masses, but it is harder to represent it pictorially.



five kilos all in the same place and time

one kilo

### The Bundle Theory and the Identity of Indiscernibles

JRL: In page 64 you say that if the Bundle-of-Universals Theory (BT) is correct, then *it follows* that two different things cannot have exactly the same properties, i. e, that the Principle of the Identity of Indiscernibles (PII) is true:  $BT \longrightarrow PII$ .

Now in page 93 you admit that if we treat a bundling of universals as a state of affairs, then it is conceivable than the same universals are bundled up in different ways, thus generating different particulars:  $BT \not\rightarrow PII$ .

Loux (1978, p. 13)<sup>3</sup> argues that you cannot derive logically PII from BT, for an additional principle is needed. This principle is called by Loux “Principle of Constituent Identity” (PCI) and states that if  $a$  and  $b$  have exactly the same constituents, then  $a = b$ . According to Loux,  $BT \not\rightarrow PII$  but  $BT + PCI \longrightarrow PII$ .

DMA: You have me on the apparent contradiction between page 64 and page 93! I will just say, by way of mitigating my offence, that while bundling up the same universals in different ways is *conceivable*, it may not be *possible*,

It seems, though that Loux is right:

$$BT \not\rightarrow PII$$

$$\text{but } BT + PCI \longrightarrow PII$$

<sup>3</sup> Loux, M. J. (1978), *Substance and Attribute*, Dordrecht: Holland, Boston, London, D. Reidel Publishing Company.

## The Bundle Theory and the Independence of Universals and Tropes

JRL: In page 73, you say: “those who try to construct particulars out of universals [i.e. the Bundle theories] are proposing that the world is a construction from, is constituted by, universals. We can put this another way by saying that they are proposing that universals are the substance of the world”. Now, as a *substance* is something that is capable of independent existence, you believe that according to the Bundle theory a single universal could exist “floating” outside any bundle, and this seems to you very strange.

I find it quite strange too! But I don’t think a Bundle-of-universal theorist is forced to accept this “substantiality” thesis. He only has to grant that universals (plus nexus) are the ultimate constituents out of which concrete, and independently existing things are made. But if he is allowed to hold that a nonrepeatable and concrete entity can be made entirely out of repeatable and abstract entities, he can also hold that an independently existing entity can be made entirely out of entities which are not independent. Why not consider non-repeatability, concreteness and independence as *emergent* properties? They would all emerge together when a certain group of constituents (universals) form a “maximal” or “complete” compound under a special nexus (“togetherness”, “compresence”...) and according to special rules of composition.

I admit that all this also sounds strange. However, the Substratum theorist is in a very similar predicament. In fact, he must say that those properties emerge when a bundle of universals form a *complete* compound related with a special nexus (inherence) to a single propertyless entity (the substratum). Because a pitch alone inhering in a *substratum* doesn’t make a concrete or independent entity.

I think a similar account can be offered in favor of the Bundle-of-tropes theorist as well (only in this case there will be two emergent properties instead of three, as nonrepeatability is already a property of the constituents).

DMA: It seems to me plausible to take the substances of which the world is constituted to be capable of independent existence. If you deny independence in a bundle-of-universals theory, you are faced with a tricky question how small the bundle can be. Incidentally, why should not a pitch alone inhering in a substratum constitute a (rather thin) substance, capable of independent existence?

## The Bundle Theory and State of Affairs

JRL: On pages 116-117 you argue that a Trope theory, even in a bundle version, must admit states of affairs. You say: “*a*’s being *F* entails the existence of *a* and trope *F*. But *a* and trope *F* could exist without *a*’s being *F*. So [*a* + *F*] (the object that is the mere sum of *a* and *F*) is an insufficient truth-maker for *a*’s being *F*”.

However, according to the Bundle theory (whether of tropes or of universals), *a* would not exist without being *F* (*F* being constitutive of *a*) and therefore *a* and *a fortiori* the mere sum of *a* and *F* is a sufficient truth-maker for *a*’s being *F*.

As Hochberg<sup>4</sup> points out, in the Bundle theory there are no facts. When one says ‘*a* is white’, one claims that the universal white is part of the complex. Thus he states: “the complex thing is what makes the sentence true, not a fact composed of two simple entities in a structural relation” (p. 96 inf.). And he adds: “Combination [or compresence or togetherness] only has the function of combining elements into things, not elements into facts” (p. 97).

Instead, according to Hochberg, the Substratum theory needs a nexus with two functions: “*exemplifying*, as a relation between a substratum and a universal, and *combining*, as a relation that connects several facts into one thing” (p. 95 inf.).

Besides, even though according to the Bundle theory the ontological structure of things doesn’t adjust neatly to the subject-predicate form, there is an ontological ground for each true subject-predicate sentence and the truth-maker principle can be preserved. Therefore I agree with Hochberg that, at least with first-level properties, the Bundle theorist has no need to admit states of affairs.

DMA: I don’t agree with Hochberg here. It seems to me that, even on a bundle view, as opposed to a substance/attribute view, the compresence of two tropes *is* a fact, a state of affairs. “*a* is white” –there, I grant, the bundle as a whole makes the sentence true. But what of ‘*a* whiteness is compresent with a sweetness at that place and time?’ That looks to me to require a fact (state of affairs) such compresence seems, on a bundle view, to be ontologically more basic than ‘*a* is white’.

<sup>4</sup> Hochberg (1960), “Universals, Particulars and Predication”, *Review of Metaphysics*, pp. 95-97.

## Trope Dancing

JRL: I will present the following four cases which, I believe, will put the Trope theorist in an uncomfortable position:

*First.* Consider a uniformly colored white disk. It will probably consist of a multitude of white tropes indiscernible in colour. So it is possible that, although the disk stays still, the little particular whiteness which compose the whiteness of the disk are whirling at great speed. But then:

- a) this movement would be unobservable in principle,
- b) could the colour tropes surpass the speed of light?,
- c) why don't they generate centrifugal forces? (after all they partly compose the disk).

*Second.* Turning again to the disk, it is conceivable that matter could have been homogeneous and not atomistic in structure. In this case, if the disk is made up of an homogeneous material, then all of its properties could be homogeneously spread as it happens with its colour. And so, not only small colour tropes but also sm'all temperature tropes, mass tropes, etc., could be whirling. But if this is possible we have the following odd situation. When the totality of the disk's tropes whirl, then undoubtedly the concrete disk whirls as well, in which case there will be a centrifugal force and we will be able to perceive the movement. But when the colour alone whirls, there will be no centrifugal force and no movement will be perceivable *even in principle*. But then:

- a) how many properties of a disk must whirl in order that the disk itself starts whirling?,
- b) could there be an intermediate stage, for example, when 50% of the tropes whirl and the other 50% remain still, which we could detect because we perceive a movement but, let's say, the centrifugal force is 1/2 of the one to be expected?

*Third.* Considering that Trope theories are usually Bundle theories, the possibility of "trope swapping" entails the possibility of "concrete particular swapping": where all the tropes of *a* and *b* has been swapped, then *a* has become *b* and *b* has become *a* (as it happens with the swapping of bare particulars).

I used to agree with you that trope swapping is not a major problem. But now, in view of these new mental experiments, I am beginning to doubt.

I would specially like to know your opinion on this point.

DMA: I am sorry to say that I have no very definite reaction, at present, to your thoughts on trope-swapping. Some of the “possibilities” that you consider seem to me to *be* possibilities, given a trope ontology, but I wonder if a trope theorist could not simply accept them. Some of your questions seem to be *empirical* ones. For example: questions about centrifugal force, –and I don’t see how to answer such questions, but I wonder if it matters.