Is really David Lewis a realist?

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Resumen. *¿Es David Lewis realmente un realista?*

Paradoxically, concerning the structure of the world, David Lewis endorses a very nominalistic point of view, whereas he approaches possible worlds from an extreme realistic position. The aim of the present paper is exactly to analyze the relation between the ontology of actual world and the possible worlds ontology in the case of David Lewis, and to see whether or not this tension between the two irreconcilable positions is based on an inner contradiction in his philosophy.

Key Words: nominalism, realism, possible worlds, actual world

Abstract

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In assessing David Lewis' ontology, one seems to be trapped in the following dilemma: on one hand, he holds a *nominalistic* position regarding the structure of the world, and, on the other hand, he is well-known for endorsing a *realistic* position concerning possible worlds. Lewis says explicitly: "That ontology, though Nominalistic, is in other respects generous. It consists of *possibilia* – particular, individual things, some of which comprise our actual world and others of which are unactualized - together with the iterative hierarchy of classes built up from them. Thus, I already have at my disposal a theory of properties as classes of *possibilia*" (Lewis 1983, p. 209). Thus, in order to understand his point of view concerning what there is, we have to see what these *possibilia* comprised in various possible worlds are, and, consequently, how he understands properties as classes of possibilia. But

let's postpone for a while the discussion concerning his nominalism, and let's see now what he means by possible worlds, and, after that, by properties as classes.

Possible Worlds

Lewis' account of possible worlds could be characterize as holding four main tenets:

1. *Modal Realism.* David Lewis' (modal) realism concerning possible worlds is a defence of the view that possible worlds and their contents are all equally real; he takes these worlds to be primitives and insists that his realistic interpretation of *possibilia* is merely a formalization of our common-sense thinking about modality: "I believe that there are possible worlds other than the one we happen to inhabit. If an argument is wanted, it is this. It is uncontroversially true that things might be otherwise than they are. I believe, and so do you, that things could have been different in countless ways. (...) I therefore believe in the existence of entities that might be called "ways things could have been. I prefer to call them *possible worlds*" (Lewis 1979, p.182).

2. As a direct consequence of his extreme Realism is his well-known doctrine of the *Indexical Theory of Actuality*: "Our actual world is only one world among others. We call it alone actual not because it differs in kind from all the rest but because it is the world we inhabit. The inhabitants of other worlds may truly call their own worlds actual, if they mean by actual what we do. (...) Actual is indexical like 'I' or 'here' or 'now': it depends for its reference on the circumstances of utterance, to wit the world where the utterance is located" (Lewis 1979, p.184).

3. A third main idea of Lewis' concerning modality is his *Counterpart Theory*. There is no more identity through individuals, but, as a substitute between very similar individuals, we have the counterpart relation, based of the likeness of the individuals. "In general: something has for *counterparts* at a given world those things existing there that resemble it closely enough in important respects of intrinsic quality and extrinsic relations, and resemble it no less closely than no other things existing there. Ordinarily something will have one counterpart or none at a world, but ties in similarity may give it multiple counterparts. (...) the counterpart relation ought to be used as a substitute for transworld identity in explaining *de re* modality" (Lewis 1979a, p.126).

4. As a direct consequence of that, is his *Theory of Worldbound Individuals*, which states that an individual could exist in only one world, and no other identical individual is to be found in that or another world. Thus, his account concerning possible worlds could be summarized as holding three main claims: the existence of a plenitude of *real* possible

worlds, each world might be seen as *actual*, and an individual is *bound* to a singular world.

Properties & Classes

Something must be said now about the role of classes in metaphysics1. Due to the axiom of extension we have it that two sets are equal if and only if they have the same elements. This provides a good extensional criterion for the identity of sets. So, even though these are abstract objects, they could be, if not entirely accepted, at least not rejected by a Nominalist. Accepting classes and reducing properties to classes have as effect what is called *Class Nominalism*, position endorsed by David Lewis. As Armstrong observes: "One attraction of Class Nominalism is that the theory of classes is well developed, which is not the case for the theory of properties. Quine says that the identity-conditions for classes are "crystal-clear", while the identity-conditions for properties are "obscure" (Armstrong 1978, vol. I, p. 29). That's why Lewis is entitled to maintain that: "To have a property is to be a member of a class" (Lewis, 1983, p. 210). Therefore, in this case of reductionism, to have a property *F* is reduced to the fact of being member of a certain class of things, namely the class of *F*s2.

But, since in the world we can find not only one-place predicates like properties, but also more-place predicates, like relations, how could one accommodate in a Nominalistic theory ontological facts as relations. Technically speaking, there are no problems in this case, just because formally a relation, an ordered pair of objects, could be reduced to an unordered class of unordered classes[3].

Observing now that we have used both 'set' and 'class', we can ask, if there is any difference between the two notions, and what this difference is about. What he means by these two notions, and also if he makes a difference at all between them, it cannot be explicitly find, for instance, in his paper *New Work for a Theory of Universals*, where he tackles explicitly this point. Here, according to Lewis' account of classes, one could observe that he did not draw the distinctions from the standard set theory, postulating, beside relations as 'to be a member of' or 'to be included in', elements like: 'individuals' (which are the elements on the bottom of this logical hierarchy, having as ontological correspondents the particulars), 'sets' and 'classes'. The distinction between sets and classes is important.

1 In his book "Parts of Classes" Lewis argues that set theory in turn reduces, with the aid of mereology, to the theory of singleton functions. But, as long, as numbers could be also reduced to sets, it seems that Lewis, with regard to the traditional mathematical objects like numbers and sets, is embracing a Nominalistic positions concerning the status of mathematical objects.

2 Fs are not only actual objects, but also possible objects. The class includes all Fs from all possible worlds.

3 In the case of relations, we can reduce the ordered pair <a,b> to an unordered class of unordered classes: {{a}, {a,b}}

Intuitively, one might think any predicate determines a fixed set, namely the set of all things satisfying that predicate. It turns out, however, that this is an incoherent idea, as appears for instance in Russell's paradox. Some predicates have an extension that is just too "large" to be considered a set. Examples are things like: being a set, being a set which is not a member of itself, being an ordinal number, being a cardinal number, having exactly one element. The list can go on. However, we still like to speak of the collection of things determined by a predicate, and we call this the extension of the predicate. A class is the extension of some predicates. Most of the familiar operations used in mathematics do not lead to classes, which are too large, and so do not cause any problem. It is now the practice in mathematics to distinguish between small classes, called *sets*, and large classes, called *proper classes*. For example "the class of all classes which does not include itself as a member" is not a set, being a proper class. In fact, it is not a well-founded set, as long as it generates a paradox in the standard set theory. In conclusion, sets are classes being capable of being members.

An odd consequence of Lewis' account of properties reduced to classes, since he does not draw a distinction between sets and classes, is that one could easily obtain such strange properties like the "property of all properties that are not themselves properties". However, later, in his book concerning possible worlds, Lewis seems to be aware of this difficulty and its consequences[4].

Universals & Properties

Let's focus now on the postponed problem of the status of universals in Lewis's ontology. As we have already seen Lewis tries to see what benefits there are by adding universal to his Nominalistic ontology. The starting point is Armstrong's Theory of Universals. After discussing this position he provides his own account to the topic, seeing in turn what advantages would have someone tackling various controversial ontological issues from this point of view. The main idea of the whole account is the distinction between properties and universals.

Armstrong does not provide any distinction between properties and universals, on the contrary, he endorsed the classical view, where by 'universals' we understand in fact properties and/or relations:

-"I will restrict myself to monadic universals or properties and afterwards make some brief remarks about what has been said to polyadic universals or relations" (Armstrong (1978), vol. II, p. 43).

-"Every property is a monadic property" (Armstrong (1978), vol. II, p. 61).

-" Particulars have properties and stand in relations. But do these properties and relations

4 See Lewis (1986), p. 50, note 37.

in turn have their own properties and relations? More succinctly: 'Are there second-order universal?"'. (Armstrong (1978), vol. II, p. 133).

In this light, it is unclear what Lewis means by saying that properties and universals are two different things. A possible answer is that, as we have already seen, properties are reduced to classes, and having a property means to be member of a certain class. Properties seem to raise no more problems for a Nominalist, unlike the status of universals, which still remain a controversial ontological issue.

Another problem with regard to such reduction is the existence of different coextensive properties like "having a kidney" and "having a heart". Dealing with these properties in the fashion of the Class Nominalism, we will obtain a single class of actual individuals, which, in fact, stands for two distinct properties. But in this case it is not clear what exactly is the class. The way out, in Lewis case, is his theory of possible worlds. His response would be that these properties are coextensive only in this world, and, provided that, it is a *contingent* fact that properties are coextensive. There are other possible worlds where individuals that have livers, may not have hearts, or vice versa. Thus properties, as classes of *possibilia*, range over every possible world, not only over our world. Therefore, Lewis' theory of possible worlds offers a good account for understanding his view on what there is in and outside a world[5].

But, as Armstrong pointed out, Lewis would still be in trouble if there are cases where two distinct properties are *necessarily* coextensive, because what is necessary holds in *all* possible worlds. The obvious reply would be to argue that in such cases the necessary connection shows that the supposed two properties are really one. But this reply may run into difficulty. Elliot Sober, for instance, has argued that the properties of being 'a three-sided plane figure' and 'being a three-angled plane figure' (being trilateral and being triangular) are distinct, but necessarily coextensive, properties.

Let me present now a critical analysis of Quine's extensional account of classes. Armstrong's critique may also apply to Lewis' account of properties of classes[6]. "A class, as Quine says, is determined by its members. Change its members and it is automatically a different class. Consider then the view that to be an electron, say, is to be a member of the class of electrons. These electrons are contingent beings. That is to say, some of them might not have existed. Other electrons besides the ones that exist might have existed. In that case, as Quine's point indicates, we would have dealing with a different class. But given a class analysis of what is to be an electron, a change in the membership of the class entails

5 It is clear now that his theory of possible world is not an additional or parallel account to his view concerning the structure of the world. In fact one needs the other, so they tend to be two different faces of the same coin. But then, moreover, the initial allegation concerning a possible hidden inner contradiction should be elucidated.

6 Lewis was Quine's student at Harvard, and he seems to be a kind of extensional reductionist also. He is following his professor very closely.

that the type *being an electron* would have been different. This is a clear consequence of the class analysis. But is this an acceptable consequence? It seems not. Intuitively, given these changes in the class membership, *being an electron* would not have been, certainly need not have been, any different. Electron nature is independent of electron class" (Armstrong 1989, p. 27).

Further, Armstrong remarks that Lewis has a way out of this difficulty, endorsing his theory of possible worlds: "David Lewis can escape this consequence, though at the cost of postulating all those possible worlds. His natural class of electrons is the class that has as members all the electrons in all the possible worlds. *This* class could not be other than it is. Every possibility for electrons is exhausted" (Armstrong 1989, p. 27). Thus, once again Lewis needs possible worlds in order to secure his nominalistic account of properties as classes.

Let see now why universals and properties are distinct entities in Lewis's case. Lewis maintains that: "Universals and properties differ in two principal ways. The first difference concerns their instantiation. A universal is supposed to be wholly present wherever it is instantiated. It is constituent part (though not a spatio-temporal part) of each particular that has it. A property, by contrast, is spread around. The property of being a donkey is partly present wherever there is a donkey, in this or any other world" (Lewis 1983, p. 210).

This is another point of divergence between Lewis and Armstrong, since the latter says: "Consider the old dilemma. Given different things with the same property, then the property must be either partially or wholly present in the things. If partially, then the unity of the property is destroyed. But if wholly in each, how can it be in either? (...) If we are forced to take one horn of this dilemma, then I think it is clear that we should take the second. If two things have the very same property, then that property is, in some sense, 'in' each of them. But this does not mean that properties of a thing are separate constituents of the thing" (Lewis 1983, p. 210). Lewis' view is quite unintuitive and unnatural. Consider further how strange it is to say something like "the donkey is a member of the property". It is true that we can reduce "to be a donkey" to the fact of " being a member of the donkey class", but it is still hard to say that the donkey belongs to the property and not vice versa, i.e., the property belongs to the donkey.

Providing some examples, Lewis holds a bizarre thing, namely that notions like "round", "silver", "gold" count as universals. But as long as I have the class of donkeys, I can also have the class of the round objects, of silver objects, of gold objects and so on. But where is then the difference between universals and properties? It seems that in fact what traditionally count as universals, namely (like the above mentioned) properties, is seen by Lewis as being universal, and, whenever we have particular individuals, the classes constructed on the basis of these particulars, provide us with properties.

A second difference between properties and universals concerns their abundance.

This seems to be a very interesting and important feature, since Lewis says: "This is the difference that qualifies them for different work, and thereby gives rise to my interest in having universal and properties both" (Lewis 1983, p. 210). But this is even more vague and unclear. Why and how are universals sparse? No argument is provided in supporting this intuition, only a kind of ontological assumption: "The guiding idea, roughly is that the world's universals should comprise a minimal basis for characterizing the world completely" (Lewis 1983, p. 210).

On the other hand, that's true. The abundance of properties is immense, since they include all possible classes of all possible entities. But "because properties are so abundant, they are undiscriminating. Any two things share infinitely many properties, and fail to share infinitely many others" (Lewis 1983, p. 210). This fact has an important consequence, namely the failure of properties to capture the resemblance and the causal power of the things. In order to have that we need an "elite minority of special properties", and the universal could serve to pick up these special properties, called *natural properties*. As long as every class generates a property, and the majority of classes are built up randomly from various different actual and possible things, it is hard to work with this kind of objects. Subsets of those classes would be natural properties, namely classes of objects that have something in common. It is quite different to have something like the class of all human being, or chairs, or books or whatever we have in a particular classroom, from having a class like "all the items in that classroom".

Lewis' definition for natural properties is: "Natural properties would be the ones whose sharing makes for resemblance and the ones relevant to causal powers. Most simply, we could call a property perfectly natural, if its members are all and only those things that share some one universal. There are two purely Nominalistic alternatives to this account in which the universal have the special job of drawing the line between natural and unnatural properties. One alternative is to draw primitive distinctions among particulars, instead of employing universals; in this account the predicate "natural" is token primitive, and no further analysis of the term will be provided. Another alternative is to define natural properties in terms of mutual resemblance of their members; the result will be a "daunting price in complexity artificiality of our primitive" (Lewis 1983, p. 211).

Thus, the universals will be accepted in Lewis' system in order to provide the difference between natural and unnatural properties, and also because universals are irreducible to properties, even they could be somehow regarded as a special subset of properties. On the other hand for Lewis, also properties are irreducible to universals, especially because they are indispensable in semantic contexts.

Nominalism vs. Realism

Here is a crucial point of our analysis. We have on one hand the Nominalistic position concerning the structure of the world, plus the role of *universals* in this structure, and, on the other hand, the Realistic account of possible worlds. Since he uses *universals*, an easy way would be to dismiss his position as being Nominalistic and to solve the initial dilemma by saying that he is 'really' a Realist. Two things still stand against this way of interpreting him. The first thing is that his 'use' of universals is not ontological, but methodological. For Lewis, universals play not a constitutive role in the construction of the world, but an explanatory role of how could we acquire natural properties. A theory which uses *universals* is not necessarily a Nominalistic theory, as long as they are not cast in playing an active role on the scene, but only as explaining to the public what is going on on the stage. A second thing is his implicit intention to reduce entities in a very strict extensional way. This means that, even he is maybe not a Nominalist *avant la lettre*, he is a definite one in spirit: "An adequate Nominalism, of course, is a theory that takes Moorean facts of apparent sameness of type as primitive. It predicates mutual resemblance of the things which are apparently of the same type: or it predicates naturalness of some property that all they share, i.e. that has them all as members; and it declines to analyze these predications any further. That is why the problem of One over Many, rightly understood, does not provide more than a prima facie reason to postulate universals. Universals afford one solution, but there are others" (Lewis 1983, p. 214).

The moral of Lewis' story could be that we do not have any compelling ontological arguments to force someone to accept the existence of the universals, but we can accommodate such entities in our theories due to methodological reasons, in order to provide better and simpler explanations. "The work I have in store for an adequately discriminatory theory of properties might be new work for a theory of universals, or it might instead be work for the resources of an adequate Nominalism" (Lewis 1983, p. 215).

It seems now that the only way left, due to the dismissal of the first variant, is to interpret him as a true Nominalist. But that means that we have to see him as a real Nominalist also with regard to the existence of possible worlds. Let's see what features of his philosophy could support this way of understanding his doctrine. Obviously, if someone wants to maintain something like that, he must face the fact that, concerning possible world, David Lewis is an autoproclaimed 'modal realist'. In fact, David Lewis is better known from this perspective than he is known as maintaining a Nominalistic position with regard to the ontological status of universals.

> I advocate the thesis of plurality of worlds, or *modal realism*, which holds that our world is but one among many. There are countless other worlds, other very inclusive things. Our world consists of us and all our surroundings, however remote in time and space. (Lewis 1986, p.

2).

Modal Realism & Essentialism

The problem now is to see whether or not the 'realism' label fits correctly Lewis' view. As we have seen, he holds the existence of a plenitude of possible worlds, each being as real as the other. But, by this thesis, it is not clear if he endorses a realistic position, like the classical one: the acceptance of the universals as truly ontological ingredients of the world. On the contrary, he claims that all these possible worlds have, in fact, a very simple Nominalistic structure. So, his view is that there are countless many worlds, including ours, and they do not include the existence of the universals. There is no incompatibility between the two theses: Nominalism and the existence of other possible worlds. The result of combining them would be, in turn, the existence of a multitude of Nominalistic possible worlds. The view is both Nominalistic and coherent.

But then, it is interesting to see why this name 'modal realism'. It seems to be so, just because the idea of possible worlds is captured by the 'semantics of possible worlds', which is in fact a technical interpretation of modal logic. Modal logic represents different systems of classical logic, plus the modal operators like 'it is necessary/possible that…'. Therefore, in order to be a *real* 'modal realist', someone has to believe in the existence of modality as such. That means one has to be convinced by the fact that our world has a modal structure, namely that there are *de re*, modal properties comprised in the structure of world. The acceptance of *de re* properties and/or propositions is the hallmark of a modal realist. That means that modality is a characteristic of the world, and not of our language about the world, like in the acceptance of the *de dicto* modalities.

This is a crucial point of our discussion, namely the possible characterization of a doctrine as truly being modal realism in concordance with the fact whether or not this doctrine accepts *de re* properties, namely *essences*. I am holding that precisely this acceptance of the essences is the real test of whether or not a theory could be characterized as 'modal realism'. There are two main types of essences: general essences (*quidditas*) and individual essences (*haecceitas*). Dawid Lewis rejects both of them.

In fact he is rejecting the more general problem of trans-world identity. Since we could not talk of an individual as being in more that one world, we could not say that there are essences. And it is obvious that in Lewis' case, where an individual is bound to only one possible world (see Lewis' fourth thesis), all the properties of an individual are essential to him. This is what sometime is called *superessentialism*. But this position, in the spite of his name, is different from a classical (Aristotelian) essentialism, where there are both essential and accidental properties. Similar as in the case of his superessentialism, which is not a true version of essentialism, Lewis' extreme modal realism is not actually modal realism.

His Counterpart Theory is a substitute for Quantified Modal Logic. With the help of this theory, one could get rid of modal discourse in the favor of an extensional account of possible worlds. Again, his aim is to reduce, and, thus, to eliminate, modal concepts. Instead of an intensional modal logic, one will obtain, in exchange, an extensional system, based on individuals and sets of individuals.

Lewis' rejection of intensional items is a natural continuation of his Quinean inheritance. Quine casts off from logic and ontology all intentional entities. His discussions concerning the quantification into modal (oblique) contexts and, consequently, his rejection of the essentialism, are well-known. Lewis makes a step further. He provides for both fields, logic and ontology, coherent theories. These theories are in fact alternative extensional accounts of modal logic and possible worlds semantics. They are unproblematic for a Nominalist, getting rid of any intensional traces. There are no more intensional remains here. Everything is clear. No universals or old fashion properties. We have only individuals and classes of individuals. They constitute the world, in fact all the worlds.

Many wonder why Lewis thinks that, given the existence of all these 'worlds', they have anything to do with modality. They have in fact nothing to do with modality. Lewis said that they are 'ways things could have been'. But we have not access to them, and therefore, we cannot say anything about them. Since the worlds do not share a common modal structure, and they are beyond our accessibility, we may not say anything about them.

In conclusion, Lewis extends Quine's line of thought, rejecting any appeal to intensional entities. He tries explicitly in various occasions to reduce everything to extensional entities. But this is a mark of Nominalism, and the heel of Achilles' heal is his rejection of essences. He cannot pass this test. A distinctive and common feature of modal realists is the acceptance of the modal structure of the world. Since he rejects essences, namely the modal structure of the world, he fails to be a modal realist. Otherwise it would be hard to see what a 'modal realist' really is.

Summing up, the result is that Lewis' Realism is a hidden Nominalist, and his account of possible worlds is, in fact, a kind of Trojan's horse of Nominalism in the fortress of Realists. Paraphrasing Lewis' description of his worlds: "possible worlds are like remote planets; except that most of them are much bigger than mere planets, and they are not remote", I conclude by saying that Lewis' conception is like modal realism; except that in most part is Nominalistic, and that is not modal at all.

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