

Concreteness and Possible Worlds.

1. Introduction.

In this paper I shall argue against the use of possible world semantics. I shall argue that all talk of possible worlds must, by necessity, be metaphorical or substantive. I will argue that if it is substantive we are, as David Lewis claims, committed to viewing possible worlds as real, concrete objects for simple reasons of parsimony. The remainder of the paper will be devoted to arguing that modal realism leads us to countenance worlds which are not only absurd but which are useless for the evaluative purpose we wished possible worlds to serve. The possibilities thus exhausted I shall hopefully show that possible worlds talk is just gas.

2. Substantive vs Metaphorical Usage

The language of possible worlds is used to explicate or evaluate modal claims. It is either used metaphorically, substantively or ambiguously. A prominent example of a text in which it appears to be used ambiguously would be Kripke's *Naming and Necessity*. In the passage which first introduces possible worlds into the text, Kripke appears to be speaking about possible worlds in a purely metaphorical capacity, when one rolls a six-sided die six times "the thirty-six states of the dice are literally thirty-six possible worlds [...]. Only one of these miniworlds – the one corresponding to the way the dice in fact come up – is the actual world¹". As the book progresses however, possible worlds appear to play a more significant role until they are finally used to support Kripke's brand of essentialism, whereby the essential properties of a thing are the properties which it has across all possible worlds. The question now becomes – is this being used in a metaphorical sense, or is the role being played by possible worlds integral to the argument being made?

If Kripke's use of possible worlds to discuss essentialism is intended to be metaphorical then it is particularly unhelpful. In the argument it would appear that either essentialism or possible worlds are supposed to be primitive, which is to say accepted as a fact in need of no further support. If what is supposed to be primitive is essentialism, then it is not clear why it needs the metaphor of possible worlds to support it, as we would have to have a fairly good understanding of which properties of an object are essential in order to cache the metaphor out properly. At this juncture I shall simply say I think metaphorical talk of possible worlds is needlessly misleading and leave the matter there. The option we are more concerned with is what happens if the possible worlds are supposed to play a substantive role.

3. David Lewis Argument for Concrete Possible Worlds

In *On the Plurality of Worlds* David Lewis advanced a thesis which he called modal realism which argues that possible worlds are concrete. He is careful to stress that he does not believe his argument holds beyond all possible doubt, merely that he show it

¹ Kripke (1980) p16

to be coherent, and to be able to deal with a number of thorny issues regarding modality. Most importantly, he argues that we are obliged to accept modal realism on the grounds of ontological parsimony.

Lewis believes that the language of possible worlds plays a substantive role in modal evaluations. As well as obviously modal statements, Lewis intends his modal realism to extend to counterfactuals as well. For the rest of this paper, for simplicity's sake, we shall return to a single counterfactual to use as an example, which is the counterfactual K: "if kangaroos did not have tails then they'd fall over". We can change this into a modal claim by unpacking it as 'necessarily, if kangaroos did not have tails they would fall over' and further translate it into the language of possible worlds as 'in all possible worlds in which kangaroos do not have tails, they fall over'. The counterfactual K seems intuitively true, but for it to be true it is argued there ought to be a truth-maker. The truth-maker for both the original counterfactual and our modal paraphrase of it seems unclear however, Lewis argues, if we see the final translation in the language of possible worlds as being a quantified statement about real objects in possible worlds, the truth maker doesn't seem any more obscure than an ordinary declarative statement. We get a Tarski 'If kangaroos did not have tails then they'd fall over' is true in English iff in all possible worlds in which kangaroos do not have tails they fall over.

It might be argued that our metaphysics would be simpler if we base our concepts of possible worlds on one or other ill-defined abstracta, what Lewis calls ersatz possible worlds. Lewis thinks this is a mistake; either the truth-maker status of such abstract objects is unclear or we are required to introduce a whole new type of object. Ontological parsimony for Lewis is not achieved by reducing the number of overall tokens, but by reducing the number of overall types. We already acknowledge a token of a perfectly good type to serve as possible worlds; our own world. Rather than generating a whole new type of abstracta we can simply generate new tokens of this type and type-parsimony is preserved. In absence of any further considerations, this constitutes a fairly powerful abductive argument in favour of concrete possible worlds.

Before we progress it is essential to say something more about Lewis' views. We shan't dwell on his solutions to problems of transworld identity, the analysis of actual as an indexical or the normal usage of exists as a restricted quantifier. We won't need such things in the forthcoming discussion, and I will take it as read that his arguments for all such details are successful, even though that is not uncontroversial. Instead, we need to say something first about quantifier restriction in general and secondly something about Lewis' broader metaphysical views.

Lewis recognises that there are many different forms of necessity we might be interested in. Logical necessity, concerned with what is consistent and coherent, can be contrasted with narrower nomological necessity, concerned with what is possible under what appear to be the prevailing physical laws in this world. So, for example, I might say 'it's not possible for pigs to fly', and this would be translated into the language of possible worlds as 'there are no possible worlds in which pigs can fly'. However, it would appear that this claim is unexpectedly false under this analysis – there is nothing internally inconsistent about pigs flying so it *is* possible that pigs might fly. What we apparently wish to express is that it isn't possible for pigs to fly

under the prevailing physical laws, which means there's a suppressed quantifier restriction in the sentence we need to be careful of and which needs to be respected. This raises an important question; what are physical laws for Lewis.

Lewis' term for his metaphysical outlook is Humean supervenience. The world consists of properties instantiated at point-instants. These point-instants are maximally small parts of four-dimensional space-time, which is to say they stand in order spatio-temporal relationships with one another. The properties are tokens of the minimum number of types we need to posit on account of a complete physical science. Macroscopic objects such as kangaroos and tails supervene upon sets of point instants. The pattern of properties at point instants across the world forms a 'Humean mosaic', and it is the patterns in this mosaic, in their simplest expression which make up the physical laws. Notice that there are two ways of treating the relationship between patterns of four-dimensional change and laws (why they should compliment each other) – to treat laws as basic (patterns exist because it follows the laws) and to treat the patterns as basic (the laws are descriptions of the patterns).

4. Evaluating a Counterfactual

K: If kangaroos did not have tails they would fall over.

We now revisit our example counterfactual from earlier. It seems intuitive that this both has a truth value, and that it is true. In defence of this I offer nothing more elaborate than that the man in the street thinks it is true. But to arrive at a truth value we must evaluate the proposition, and the claim we are examining is that we evaluate counterfactuals using possible worlds. Either, we do this by looking at possible worlds directly – which seems impossible, in so far as it is even meaningful – or else we have some procedure for moving from our world to another possible world, preserving coherence. There seem to be two ways of constructing worlds from our own, which we shall now examine. The first, which I call 'bottom-up construction', takes simple physical laws as basic. The second, which I call 'top down construction', takes the contents of the world to be basic. The second method we can attribute to Lewis.

Bottom-up construction takes the world as it is, physical laws and all, and changes what needs to be changed to achieve the antecedent of our counterfactual. To see whether if kangaroos did not have tails they would fall over, we change what needs to be changed for kangaroos not to have tails. This is trickier than it sounds. Kangaroos have tails as a consequence of evolution. The tail counterbalances the weight of the kangaroo and without it couldn't move itself around. For them not to have tails requires us to change the physical laws which underpin either evolution or gravity. But changes to these more basic facts about the universe will have serious consequences. For example, suppose we change gravity so it is weak enough for kangaroos not to have tails, we may find that we also remove the possibility of stellar formation, or (to be more graphic) we end up with upside down trees. We cannot know what the consequences of a change of this sort might be, and even if we did such a world would be so outlandish that the claim of it being 'the closest possible world' becomes a nonsense – either bottom-up construction is useless for evaluating counterfactuals.

The other method of construction is top-down construction. In top down construction, what I do is I specify the contents of the world (whether as natural properties at point-instants or as medium sized dry objects) and then extrapolate the physical laws from the patterns they supervene upon. There are two types of useful top-down worlds; minimalist and (for want of a better expression) maximalist.

In minimalist top-down worlds there is nothing more than what is strictly required to evaluate the proposition in question. Would kangaroos fall over if they had no tail? We look at a world in which there is, for example, an infinite plain of tailless kangaroos affected by Earth standard gravity then we set time going and see if they fall over. But consider what this world actually involves. What do the kangaroos breathe? What do they eat? What about the history of this world – did the kangaroos pop into think air from nothing; are they ‘basic facts about the world’? If we look at the supervening physical laws we may get something as absurd as ‘kangaroo subvening properties come to be instantiated at time t at such-and-such point-instants’ as being the simplest way we can express one of the basic laws governing this world. My argument is not that this world is just absurd, but that it is *too* absurd on two levels. First, it is too absurd to be of any use as ‘the closest possible world’ with which to evaluate my counterfactual. Second, it is too absurd to be credited as qualifying to be a world. I can express this no more succinctly than saying ‘worlds aren’t like that’.

We have a similar problem with maximaist top-down worlds. Here, we take the actual world as our base again and change it, but this time we pay no attention to physical laws until the end. You want kangaroos without tails? Simply remove the tails from the kangaroos and see what happens. But we run into two problems here, each one as fatal as the other. First, such a world will then have a ‘physical law’ to the effect ‘up until time t kangaroo subvening properties will subvene kangaroo tails; after time t they will not’. That kangaroos lose their tails at some arbitrary point in time becomes a basic law of the universe, which up until then was happily plodding along as though it were the actual world. But we might equally have a world with a pattern which is expressed as a law something akin to ‘GRAVITY (except for properties subvening tailless kangaroos)’ where magically tailless kangaroos are unaffected by gravity. There is no particular reason for preferring a maximalist top-down world in which kangaroos do fall over, over one in which they do not in terms of ‘distance’ as in both cases the mosaic has radically changed. Maximal top-down worlds fare no better in the absurdity than their minimalist bretheren.

6. Conclusions

The end result appears to be this. If we use possible worlds talk in a substantive fashion, we commit ourselves to concrete possible worlds. But these concrete possible worlds appear to be unfit for the purpose they were intended to be used for; evaluating modal expressions. To access worlds we must construct them from our own. Bottom-up construction leaves us with worlds so outlandishly different they are unsuitable to shed any light upon the contents of this world such as kangaroos. Top-down worlds leave us with worlds which when examined leave us with such surrealistic laws that sheer taste ought to discourage us from calling them laws, and leave it as a matter of personal preference whether the consequent of our counterfactual holds or not,

because neither the world in which it does and the world in which it does not seems more distant than the other. Were I asked to proscribe solutions to be the problem I would offer the following. First, we need to treat physical laws as basic; it appears basic to what we would wish to call a world that their physical laws are in some special sense simple, and this is something we cannot guarantee with possible worlds based around a Humean supervenience view. Second, we ought to junk the language of possible worlds. When it is used metaphorically, it only obscures matters. And when it is used substantively, it results commits us to all of the foregoing absurdity and ultimately leaves us no better off when it comes to evaluating modal propositions than we were before. If we consider what is actually going on at the psychological level when we evaluate a counterfactual, I believe you will find it something akin to imagining or simulating a minimalist world. Imagined objects require no claim to realism (so no need to feed the kangaroos) but equally have limited claim to reliability.

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