Logique & Analyse **169–170** (2000), 43–48

ON LEWIS AND THEN SOME*

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There are a number of problems for critiquing a paper by David Lewis. One problem is that Lewis is a consummate philosophical craftsman. It is next to foolish to hope to find inconsistencies. There are no simple falsities. If there is an error of omission, then Lewis makes an extraordinarily ingenious addition. Any falsity is far from a simple one and beautifully tailored to seem to be the best explanation for something that few people even try to explain yet crucially needs explanation.

Working from our world to alternative worlds is an epistemically-based priority and not an ontologically-based priority. There is no ontological priority of any alternative world over any other, including ours. Our world is just one amongst the multiple alternative real worlds, having no ontological priority as *the* world to which all other worlds are alternatives. Using the notion of "minor miracle" for nearest neighbor world to deal with some counterfactuals as done occasionally by Lewis, I came to the following teasing thought. It would seem churlish to think that ours is safe from serving counterfactuals from some other worlds with the needed minor miracles in our own world. We must remember that it is no easy matter to describe alternative worlds in which, as it were, similar things to ones in our world, while remaining similar, obey different laws. It seems easy until we try to work out the details. Furthermore, if so many possible worlds having similar laws to our own world are good enough to serve our counterfactual needs with minor miracles, we should almost be expected to serve with minor miracles in our world. Then perhaps the supposed indeterminacies and other mysterious happenings in quantum physics could then be a place to look for such miracles.

First I shall discuss an isolatable problem. I shall do this in terms of Lewis's own view of possible worlds rather than the alternatives that Lewis lists because his view is clearer, more ontologically honest and candid than the others.

*This paper was presented as a response to David Lewis, "Truthmaking and Difference-Making," at the Chapel Hill Philosophy Colloquium, October 1999, and subsequently published in *Noûs* 35 (2001): 602–15.

Lewis says that he "once professed agnosticism about whether there are indiscernible possible worlds". He now has moved to a form of denial of indiscernible worlds.

I shall argue why he should accept indiscernible worlds and obviate the need for distinctive objects for distinct worlds.

Scrubbed clean of verificationist overtones, "discernible" just is "difference making".

1. Alternative (possible) worlds each have their own unshared-with-other-worlds' space-times. That should be enough to allow numerical difference between those worlds, even if they are qualitatively and relationally similar just as spatial-temporal difference is enough to make a difference between qualitative and relational similarities *within* a world.

2. Max Black's chapter, "Identity and Indiscernibility," in his book *Problems of Analysis*, gives the example of a two-sphere universe.[1] The spheres have similar properties and similar relations. There is a way of expressing the difference between there being only one sphere and there being more than one. It is done by thinking of there being a part of a sphere that is more than any sphere's distance from some other part of a sphere. If that thought is applicable, then there is more than one sphere. If it is not applicable, then there is only one sphere.

The qualitative and relational similarities between worlds are differentiated by each world's unique and unshared space-time.

The truth maker principle that Lewis ascribes to me is not my view.

He suggests (and so does John Bigelow in an unpublished paper) that I am claiming "The proposition that a donkey talks is true iff a donkey talks." This is to claim "If there exists a talking donkey then there exists a proposition that is representative of there being a talking donkey."

I accept nothing like "If x then the proposition that x is true."

I do accept that there exist things (or spatio-temporal segments) and their properties and relations and their dispositions. I think that these can exist without truths about them. Truth requires truth bearers and truth makers as correlatives. For truth we need a truth bearer that is in use by an individual or within the individual's capacity for use as projective to and selective for what or how something exists that *does* exist (truth maker).

Lewis has an account of propositions as sets of possible worlds, but I fail to understand how sets of possible worlds play the projective-selective role of truth bearers. He allows that propositions can be unexpressable and unthinkable. How do these unexpressable and unthinkable sets fill any kind of projective, selective, representational role? Truth bearers are representative of what makes them true. The job is to give an account of representation

[1] *Problems of Analysis*, Ithaca: Cornell University Press, 1954.

that is naturalistic and in no need of abstract entities. To do this adequately is to find the sources in basic nature that can provide a slide from quark to colleague.

There must, I think, be a gradualist model from this simple projection to non-linguistic and linguistic capacities for rule-governed intentional representative activities in the head and behaviour. This will be a model going from the many directional readinesses of the quark, most of which would not be manifested, to the capacities and dispositions for many representations of some English speaker, most of which would also not be manifested.

I shall present a slide. I shall leave it up to the reader to choose at what point in the slide is enough for a case of full-bodied representation or perhaps representational use. First, some metaphysics is necessary.

An actual disposition or set of readinesses exists, here and now, and is projective for endless manifestations with an infinity of present or absent, actual or non-actual alternative disposition partners. We can think of this projectivity as constituting a complex line (or, perhaps better, a "web" or a "net" that elsewhere I have called a "Power Net"). Dispositions differ just in case their disposition lines differ. A disposition line is what the disposition is *for*, what it is *not* for, and what it is *prohibitive against* with alternative actual or non-actual reciprocal disposition partners. In this way, a disposition line encompasses a bounded infinity of directedness. These readinesses are all actual, although non-existent disposition partners and non-existent manifestations are not. Disposition lines can weaken or strengthen or cease to exist. At any specific freeze-dried moment there are specific disposition lines having their active readinesses for an infinity of mutual manifestations with an infinity of actual and non-actual reciprocal disposition line patterns both intrinsic and extrinsic. An object possessing a disposition may lose that disposition. This is different from the disposition being retained but its manifestation being blocked or inhibited by something intrinsic or extrinsic to the object. There is a parallel distinction between cases in which a disposition line is complicated or "kinky" (and thus difficult to see as a pattern), and those in which dispositions are in flux and different disposition lines are in play at different times. These cases are different from those in which different dispositions can share disposition lines up to a given point and then diverge.

Dispositionality provides a basis for a naturalistic realism in logic and mathematics. Let there be anything, even just a quark or two. These have actual dispositions with their disposition lines for different manifestations with an infinity of other elementary particles with alternative interrelations and interactivities that are arrangements such that those particles would constitute the golden horn unicorn or, differently organized, the very same particular would constitute rule-following organisms. The readinesses of the original quark are all actual, although not all of the reciprocal disposition partners

and manifestations are. The directedness to the infinity of reciprocal disposition partners for, or against, or neutral for an infinity of manifestations, with an infinity of different disposition lines, is actual in the quark itself. Therein lies the mathematical reality of infinities: not just in a grain of sand but in whatever is an elementary particle or aspect of a superstring.

Dispositionality with its disposition lines directive for a bounded infinity would seem to satisfy the "and so on" of recursive functions. Knowing a line, one could move from one place (with a specific set of reciprocal disposition partners) to any other place (with a different set of partners, actual or non-actual) along the line. This suggests that recursion is built into nature at the simplest, most basic level. We can be grateful that such lines of directedness can exist without our having to know them or be mistake free in our attempts to know them.

It is possible, as well, to see how dispositionality could ground entailment and mathematical necessity. Different disposition lines can have overlapping segments. There is no guarantee than an agent who possesses dispositions with such lines recognizes or appreciates the overlapping. Even so, an agent may anticipate a whole range of overlappings involving different disposition lines and, with great good fortune, come to a detailed awareness of much of this. That awareness, of course, need not take the explicit form of the technical notion of disposition lines. Failure to see a lack of overlap or a point of conflict between disposition lines is common experience.

A given disposition can have a disposition line for the manifestation (with relevant reciprocal disposition partners) of the acquiring of new dispositions with new disposition lines. The actual seminality of the disposition here is what grounds a naturalistic account of the objectivity of mathematics and logic and also for the sense of real discovery and failure of discovery. From the self-identity of distinct disposition lines flows the necessities of their overlappings (or points of conflict).

The only thing that such a sturdy naturalism for mathematics (and much else, including modalities) cannot account for is the for all times and places utterly null universe. Since our own individual existence (and much else) falsifies the universe being empty, we can live with this false counter-case. If that is a reason for peopling the universe with non-spatial, non-temporal abstract entities and universals (as Lewis, of course, never does), it isn't good enough. Physics itself helps here. Space-time cannot exist in a totally empty world — it needs to have (as substance would) properties.[2]

After living the relationships between indefinitely many worlds, of which ours is only one, to explain necessity and contingency and otherwiseness and

[2] A fuller epistemic model for this is developed in "Rules and powers" with John Heil, *Philosophical Perspectives* 12 (1998): 283–312.

fictions, it may feel very hard and odd to even attempt to do it all just within *our* actual world. I mean to show how that *can* be done.

There is a need to explain in terms of the actual the intuitive notion of would and could have been otherwise.

For any dispositional state there are *actual* readinesses with an indefinite number of alternative reciprocal disposition partners for an indefinite number of alternative mutual manifestations. This view would regard the counterfactual as a clumsy linguistic gesture to these multiple readinesses. It should not be read as an assertion of what *would* have happened instead of what *did* happen. That is a reference to mere possibilia. Keeping only to the actual there are the varieties of *actual* readinesses for a variety of mutual actual or non-actual manifestations with a variety of present or absent actual or non-actual reciprocal disposition partners. The readinesses have to be fully actually determinately *for* the mutual manifestations with the reciprocal dispositions. Of course, the manifestations with particular partners may exclude other manifestations with *other* reciprocal partners.

The single quark has the dispositional readinesses with an indefinite number of alternative disposition partners (in the form of its interrelated and interreactive sibling quarks and cousin leptons) for their indefinite number of alternative mutual manifestations. Some of these would even take the form of beings with various capacities for representational uses. Such capacities and readinesses would form truth bearers for the presences or absences that would be the correlative truth makers or false makers or even accuracy or inaccuracy makers.

The slide from single quark to particle conglomerates of humanoid types invites us with many places to get off as enough for representational use. I cannot describe the slide and get-off places here in detail. Very roughly, there are quark-lepton arrangements (systems) in the body under rough "evolutionary" development that have mappings of their immediate physical environments — *in* the body but outside of the central system involved. These mappings allow for spatial and temporal (anticipatory) targets for placing origins of input and placing endpoints of output. There is competition of input such that the seemingly stronger input may not win. If there has been a number of inputs messaging cold in the inner core, then with the retention of these in the central system (perhaps primarily centered in the hypothalamus) the stronger input from an area of the surface of the skin may lose to a weaker input from the inner core. This is all under negative and positive feedback and also feedforward, anticipatory and corrective. It takes many months to mature in the human body. It can function in a permanent vegetative state so it is not a conscious system. Are its inputs given representational use? Or do you want consciousness, or do you want to stay on the slide until linguistic representation? You decide where you get truth bearers. But the

world can easily do and has done without them and so without truth, yet with a plenitude of being.