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CONCEPTUALISM AND THE ONTOLOGICAL INDEPENDENCE OF CAUSE AND EFFECT

by U.T.PLACE

Place's Humeanism and Martin's failure to address it

In his reply to Place (pp. 140ff.), Martin fails to address Place's submission (p. 118) that his (Martin's) Limit View of the relation between categorical/qualitative and dispositional properties fails to allow for the causal relation which, on Place's view, holds between the dispositional properties of the whole and the properties of its structure, both categorical/qualitative and dispositional. There would seem to be two reasons for this omission. In the first place, by taking as his example the case of an elementary particle which has no parts, no microstructure, which can account for its dispositional property (the 'charm' of the quark), Martin aims to finesse the issue which is central to the debate between Place and Armstrong, the 'reduction vs. non-reduction debates' (p. 74). Second, the fact that Place agrees with him in holding that

dispositional properties ... play a basic role in causality, (p. 81)

and hence, given his view of causality, that there is both a purely categorical and a dispositional aspect to every causal relation, conceals the difference between the two views over the relation between dispositional properties and their categorical/structural basis.

The difference between Martin and Place emerges very clearly from the former's reply to Armstrong (p. 133) where he (Martin) chides Armstrong for subscribing to the Humean doctrine that

there can be no logical links between distinct existences such as cause and effect. (p. 95)

[p. 154] But, as Place makes clear in his previous reply to Martin, that Humean doctrine is a crucial premise in his argument for the ontological independence of dispositional properties from their microstructural basis. In Place's words

as Hume has taught us, causal relations hold only between 'distinct existences'. For that reason ... we have to conclude that the properties of the whole are not properties of the parts under some other guise." (p. 109)

The Humean view in the form in which Place subscribes to it takes the following propositions as axiomatic:

- A1 Logical properties and relations such as necessity/contingency apply only to or between propositions.
- A2 Propositions are linguistic entities, sets of actual and possible semantically equivalent sentence utterances.¹
- A3 A causal relation is a relation between two actual and particular situations.
- A4 Situations² are of two kinds:
 - *states of affairs* whereby a feature (a property of or relation between some other thing or things) persists unchanged over a period of time,
 - *events* whereby a feature changes at or over time.
- A5 Causal necessity is a matter of the truth of Hume's counterfactual

if the first object [the cause] had not been, the second [the effect] had never existed.
(D. Hume *Enquiry concerning the Human Understanding*, Section VII, Part II, para. 60)

From these axioms the following corollaries may be deduced:

- C1 There are no logical necessities "in nature", no "*de re* necessities" as proposed by Kripke.³
- C2 Causal necessity is not a species of logical necessity.

- C3 Statements asserting a causally necessary relation between particular situations are invariably contingent, unless the way they are described makes the denial of the statement self-contradictory.
- C4 The situations between which a causal relation holds are distinct existences in the sense that they consist either in simultaneous or consecutive changes in or in the simultaneous persistence of different features (relations or properties) of the same or different substances.⁴ [p. 155]

It will be conceded, Place thinks, that these corollaries follow from the axioms. As to the truth of the axioms, he can offer no proof, such as demanded by Martin in his discussion of Place's conceptualism (p. 140). What philosopher could? Nevertheless, he sees no argument in Martin's critique of Armstrong's Humeanism (above pp. 133-5) which casts doubt upon *this* version of Hume's position.

Place's reaction to the Martin-Armstrong debate

When combined with his endorsement of conceptualism (of which more anon), this statement of Place's Humeanism should make it abundantly clear why he sees no point in the debate between Martin and Armstrong over the relation between laws and universals, where both laws and universals are construed as entities existing independently of human conception. It is not just that Place's conceptualism denies the existence of conceiver-independent universals and causal laws, his version of the counterfactual theory of causal necessitation, as set out in the paper which precipitated the present debate,⁵ undercuts what he takes to be the underlying motivation for believing in the existence of such entities.

If it is granted

1. that causal necessity consists in the truth of Hume's counterfactual,⁶
2. that this counterfactual is always a contingent proposition, and
3. that every contingent proposition depends for its truth on the occurrence of some event or the existence of some state of affairs whose occurrence or existence makes it true, if it is true,

we are then faced with the problem of finding a truthmaker for the causal counterfactual. This cannot simply be the occurrence or existence of the cause event or state of affairs in juxtaposition to the effect event or state of affairs. For that is precisely to leave out the "necessary connection"⁷ between the two which the counterfactual supplies. Few, however, would want to dispute the claim that, epistemically speaking, the truth of the counterfactual has to be deduced from some kind of causal law statement of the form:

If at any time an event or state of affairs of the cause type were to occur or exist, other things being equal, an event or state of affairs of the effect type either *would* occur or exist (if the law is deterministic) or *would be likely to* occur or exist (if the law is probabilistic).

[p. 156] It is, therefore, very tempting to suppose that the state of affairs which makes the counterfactual true is the same state of affairs that makes true the causal law statement from which it is epistemically deduced. Indeed, it is difficult to see what alternative truthmaker could be proposed for the counterfactual other than the manifest absurdity of the 'counterfactual state of affairs' which Armstrong and Place agreed to reject at the very outset of this debate (pp. 15 and 20).

At this point, most philosophers in the analytic tradition are driven by their obsession with quantification theory to assume that the causal law statement that is needed in order to 'support' a causal counterfactual has to be universally quantified over *individuals* as well as over *occasions*. Once this move is made, the temptation to postulate something like Russell's 'general facts' (p. 149 [Armstrong], p. 129 [Martin]) or Armstrong's conceiver-independent 'laws of nature' (p. 42) in order to provide a truthmaker for such universally quantified causal law statements becomes well nigh irresistible.

This, however, is a 'gradient of descent' which we don't need to follow. As Nelson Goodman has pointed out,⁸ in order to support a counterfactual, the causal law statement does not have to be universally quantified over individuals. A dispositional statement which is restricted to the behaviour of a particular individual over a limited period of time will do just as well, provided, of course, that the period of time over which the disposition obtains encompasses the occasion referred to in the counterfactual. Such individual dispositional statements are universally quantified. If they were not, the counterfactual would not be deducible from them. But they are universally quantified *only* with respect to occasions within the period over which the disposition obtains. In all other respects they are entirely particular. They are laws,

not of nature in general, but of the often temporary nature of one particular individual.

The implication of this discovery of Goodman's for our present purpose is that all we need in order to provide a truthmaker for a causal counterfactual is the existence in the case of the entities involved in the causal interaction of a reciprocal⁹ dispositional property which has the event or state of affairs envisaged in the causal counterfactual among its possible manifestations. Needless to say it is precisely the existence of particular dispositional properties, construed as states whereby their owners are 'pregnant' with a range of possible ways of behaving any one of which, if it occurred or existed, would constitute a manifestation of the property in question, whose assertion by Place (p. 26) and denial by Armstrong (p. 38) was the starting point for the present debate. [p. 157]

On this view of Place's, all that we need to postulate as existing in the universe of space-time are concrete particulars or "substances", as they are called in the terminology of mediaeval Aristotelianism, their particular dispositional properties, and the particular categorical spatio-temporal relations obtaining between them. There is no need to postulate any conceiver-independent universals, any general facts, any laws of nature considered as conceiver-independent states of affairs. On such a scheme, causal laws universally quantified over individuals are held to exist independently of human conception *only* in the sense that there exist, independently of conception, particular dispositional properties of particular individuals which satisfy the conditions required for a particular dispositional property to constitute an instance of whatever conceiver-*dependent* universal law is in question. Such a view is in no way embarrassed, as both Armstrong and Martin's positions must surely be, by the evidence which Nancy Cartwright¹⁰ has adduced in support of her contention that the laws of physics, as currently construed and written down in textbooks, are at best rough approximations to the truth whose generality, even in those domains where they can be shown to apply is indeterminate and likely to remain so.

Martin's critique of Place's conceptualism

Having examined the implications of Place's conceptualism for the debate between Martin and Armstrong over the issue of conceiver-independent universals and laws of nature, we can now turn to the issue of Place's conceptualism, considered as the thesis that universals are conceiver-dependent which Martin discusses in his 'Reply to Place' (pp. 140-6).

In an earlier chapter (p. 56), Place complained that, in criticising his (Place's) account of universals, Armstrong confounds conceptualism with nominalism. Place now finds himself confronted by Martin's criticism of the same theory which confounds conceptualism with anti-realism. That there *are* forms of conceptualism which imply anti-realism is not disputed. Kant, for example, held such a view. What *is* disputed is the claim that a conceptualist is necessarily committed to anti-realism and that what Place thinks of as the Aristotelian form of the doctrine is so committed.

On Place's understanding of the matter (see p. 26 and pp. 34-5 for a disagreement between Place and Armstrong on whether Aristotle was in fact a conceptualist), an anti-realist is someone who believes that the [p. 158] existence of both kinds/universals *and* their instances is in Martin's words 'classification dependent'. Place's Aristotelian conceptualism, by contrast, holds that it is only the kinds/universals which are 'classification dependent'. The particulars which, when appropriately classified, acquire the status of instances of those universals exist, in most cases, wholly independently of whether or how they are subsequently classified by human beings or other living organisms.

Martin contrasts (p. 143) universals such as 'lawyers, holding an opinion, and having a theory', 'governments, bank balances and wars', 'scenery, shell money, clues, costly, interesting, cherished, classified', 'dictionaries', 'flags and bank accounts', 'views' and 'landscapes' whose existence is 'classification-dependent' with universals such as 'people, apes, pains, beliefs and perceptions', 'comas', 'perceived, forgotten and ignored', 'rocks and H₂O', 'mountains and lakes' whose existence is not so dependent. Here Martin is contrasting universals whose *instances* depend for their existence on human conception (the classification-dependent universals) with those whose instances exist regardless of how they are classified by humans or other living organisms.

Now if you accept, as even Armstrong does, that to say that a universal exists is to say that it has instances, there is a perfectly good sense in which we can say that universals the existence of whose instances is independent of human classification and only such universals exist independently of how they are classified. But that is not the sense of 'exist' which the Aristotelian conceptualist is using when he claims that in all cases the existence of the universals *as distinct from* that of their instances is 'classification dependent'. Since we have reason to think that the universal 'quark' has had instances ever

since the Big Bang, in *that* sense the universal has existed since that initial moment of time. However, since the concept was only introduced some thirty years ago,¹¹ in the conceptualist's sense the universal has only existed for that minuscule instant of cosmic time.

As already remarked, Martin's insistence that Place must provide a proof that conceptualism in his sense is true, goes way beyond anything any philosopher has ever achieved. The most one can hope for in philosophy is to demonstrate the incoherence of the obvious alternatives. Even then, such a demonstration is seldom, if ever, an end of the matter. The case for the kind of conceptualism advocated by Place is the conviction that there is no coherent halfway house, such as that envisaged by Armstrong, between, on the one hand, the Platonic view which holds that universals exist independently of their instances in a full-blooded sense of which it makes sense to ask and answer the question 'where are [p. 159] they?' and the conceptualist view which hold that all that exists are the particulars, the classificatory behaviour of living organisms whereby the particulars become instances of the kinds identified by the particular classification in use, and the resemblances between the particulars which make such classifications possible.

The challenge to this kind of conceptualism, of course, is to explain how someone who advocates this view can be so confident that the particulars really do exist independently of conception, when the very question as to their existence cannot be posed until the particular has been subsumed as an instance under some universal. To provide that reassurance and avert the slide into anti-realism we need to insist, as Martin does, that the ability to classify in a way that reflects the real order of the natural world is essential to the survival of all complex free-moving living organisms. As Martin puts it -

The human organism [and not just the human organism - UTP] has perhaps the best classificatory mechanism that nature can provide for discovering what is ... basic in nature that explains and constitutes its endless variety. (p. 144)

That reality in all its particularity should be able to impose its recurrent patterns on the conceptual scheme that controls the behaviour of a free moving living organism is understandable when we consider the value of such a mechanism for ensuring the survival into reproductive maturity of a number of individuals sufficient to ensure the continuance of the species.

But it is not just considerations of biological plausibility that assure us that Locke was mistaken in supposing that

the having of general ideas is that which puts a perfect distinction between man and brutes, and is an excellency which the faculties of brutes do by no means attain to (J. Locke *Essay Concerning the Human Understanding* Book II, Chapter XI, Para. 10).

Recent studies of the properties of Parallel Distributed Processors (PDP's)¹² and other more realistic neural network models of brain functioning¹³ are beginning to throw a flood of light on the actual mechanisms whereby the brain learns to abstract universals from sensory encounters with the particulars which thereby become their instances. When combined with the evidence from experimental studies of discrimination learning in animals¹⁴ this evidence is beginning to suggest [p.160] that the ability of a network, whether artificial or natural to follow 'the natural lines of fracture' in its stimulus environment depends on whether the learning is 'unsupervised' or 'supervised'.¹⁵ In unsupervised learning the network learns to classify inputs (stimuli) on the basis of nothing more than the classical principles of association by contiguity and similarity. No feedback is provided as to the quality of the output, when it is right and when it is wrong. It is characteristic of such unsupervised learning that the system generalises on the basis of what may well turn out to be superficial resemblances between such stimulus events.

In supervised learning by contrast the system is told when it is right and when it is wrong and, in some cases, by how much it is wrong. Given *this* information the system can learn to group things together into the much more disjunctive categories which correspond to likenesses and differences between the actual objects and events which underlie the superficial resemblances between stimuli.

In an artificial network this supervision is supplied by a human trainer or more usually, by a computer programmed to provide it. In a living organism it is provided by what the organism discovers are the immediate practical consequences of doing one thing rather than another. It follows that those differences and connections between things which the organism incorporates into its conceptual scheme, though real enough, will tend to be those which it finds practically useful to combine and separate, rather

than those yielded by a mature human science.

The operation of this principle is beautifully illustrated by Martin's story of the fisherman from the Wirral who persists in classifying whales as fish,¹⁶ despite a full knowledge of the scientific evidence against that classification. What this story also shows us, I believe, is that what justifies scientific realism, the belief that the theoretical entities of science really exist, is not the mythical baptism of natural kinds postulated by Kripke,¹⁷ but the systematic submission of scientific concepts to the kind of supervised learning situation which is provided by the methods of systematic observation and experiment, a form of rigorous testing which under normal circumstances is received only by those concepts which are of immediate practical relevance to the needs and interests of the classifying organism.

NOTES

1. In the passage in his '[On the social relativity of truth and the analytic-synthetic distinction](#)' *Human Studies*, 1991, **14**, 265-285, pp.272-274, in which he develops this account of propositions, Place uses the term [p. 161] 'intensional set' to describe a type of collectivity, of which he takes propositions and Fregean thoughts to be instances, which includes possible as well as actual members. From his intensionalist perspective it is unfortunate that terms such as 'class' and 'set' have been appropriated by and defined in terms of an extensional logic which can only accommodate the possible but not actual by 'quantifying over' possible worlds.
2. Following J. Barwise and J. Perry, *Situations and Attitudes*. Cambridge, Massachusetts: MIT Press, 1983.
3. S. Kripke, *Naming and Necessity*. Oxford: Blackwell, 1980.
4. Armstrong (personal communication) wonders whether, in view of the logical connection between the two, this view can handle the causal relation between a dispositional property and its manifestations. Place replies that the 'logical connection' here is between a disposition and its *possible* manifestations, not its *actual* manifestations which may or may not occur, if the disposition exists. This shows that the disposition and its actual manifestations are 'distinct existences' linked by a contingent causal counterfactual whereby the manifestation would not have existed or occurred as and when it did, had not the disposition of which it is a manifestation already existed.
5. U. T. Place, '[Causal laws, dispositional properties and causal explanation](#).' *Synthesis Philosophica*, 1987, **3**, 149-160.
6. Armstrong (personal communication) asks why dispositions are also needed. Place replies that we are talking about statements here, not their truthmakers. A dispositional statement is needed to 'support' (i.e., provide a premise for the deduction of) a causal counterfactual.
7. Armstrong (personal communication) objects that, according to 4 above, the causal connection is supposed to be contingent. Place replies that the contingency applies to causal statements, not to the relation between situations whose existence a causal statement asserts. The term 'necessary connection' here is a quotation from Hume. It is his term for the invisible glue that cements two otherwise distinct and separate existences together. As Hume was well aware, 'necessary' in this sense has nothing to do with 'necessary' in the sense in which it contrasts with 'contingent.' As Hume would put it, the latter is a relation between 'ideas,' while the former is a relation between 'matters of fact.'
8. N. Goodman, *Fact, Fiction and Forecast*, Second Edition. Indianapolis: Bobbs-Merrill, 1965, p. 39. For a discussion of this point see Place, 1987, *op. cit.*, p. 152.
9. As Martin's concept of 'reciprocal disposition partners' implies, at the point of manifestation, though not before, all dispositional properties are 'reciprocal' in the sense that they apply to a causal interaction between two substances. As has been argued (p. 117), it is only our language that compels us to assign them to one party or the other. For a discussion of this point see U. T. Place, '[Skinner re-skinned](#)' in S. and C. Modgil (eds.), *B. F. Skinner; Consensus and Controversy*. Lewes: Falmer Press, 1987, Part XI, Skinner and the 'Virtus dormitiva' argument, pp. 239-248. The reference is to p. 242.
10. N. Cartwright, *How the Laws of Physics Lie*. London: Oxford University Press, 1983.
11. In 1964 to be precise. [p. 162]
12. See D. E. Rumelhart, J. L. McClelland and the PDP Group, *Parallel Distributed Processing*, Vols. 1 and 2. Cambridge, MA: MIT Press, 1986.
13. E.g. G. M. Edelman, *Neural Darwinism*. New York: Basic Books, 1987.
14. See particularly K. S. Lashley (1938), 'The mechanism of vision. XV. Preliminary studies of the rat's capacity for detail vision'. *Journal of General Psychology*, 18: 123-193, R. J. Herrnstein, D.H. Loveland and C. Cable (1976), 'Natural concepts in pigeons'. *Journal of Experimental Psychology: Animal Behaviour Processes*, 2: 285-302, and J. M. Pearce (1988) 'Stimulus generalization and the acquisition of categories by pigeons', in L. Weiskrantz (ed.) *Thought without Language*. Oxford: Clarendon Press, pp. 132-155.
15. For the use of this distinction in the connectionist literature see P. Quinlan, *Connectionism and Psychology*, Chicago: Chicago University Press, 1991, p. 53.
16. Coincidentally Place (1991, *op.cit.*) has used the traditional classification of whales as fish as an example of the mutability of conceptual schemes.
17. Kripke, 1980, *op. cit.*