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7

Linguisticism and Pythagoreanism

7.1 THE LINGUISTICIZATION OF PROPERTIES

Predicates are linguistic, mind-dependent entities; many properties of objects are neither. Linguisticism is silly, but it is also endemic and largely unnoticed by many practising ontologists. Its suggestion needs expunging from the motto 'To be is to be the value of a variable' (Quine 1948; cf. Martin 1984a), but appears unmistakably in what can be described as a kind of *holus bolus* view (Martin 1980 and 1993) that suggests that it is the object *simpliciter holus bolus* that makes each of many statements about it true or false. When the statements

- (a) The passion fruit is round.
- and
- (b) The passion fruit is purple.

are true of one and the same object, it is something in particular *and* different *about* the object that makes the statement true in each case. The predicates are built to pick these out.

Furthermore, *different* ways (properties) *about* (or of) the *same* object are causally operative in different ways (or inoperative) for different effects. The object is causally operative in some event for particular effects only by virtue of *some* of its properties *rather* than others. It is not operative *holus bolus* for each and every effect. Properties are needed for causality. Without properties, objects are empty and predicates blind (Martin 1980, 1993).

If you compare *objects* in terms of their similarities and dissimilarities, you are necessarily concerned with some respects thought to be 'in common' between them. This has led to the invocation of the numerically identical universal as the common element. The need for universals is removed, however, once you recognize that object detection, discrimination, and even identification is dependent on

a more basic detection, discrimination, and identification of things about objects, namely, properties of objects—colours, movements, shapes, loudnesses, tastes, textures, and the temporal pulses, changes, and spatial spread of these.

7.2 TROPES AND UNIVERSALS

This requires a *mind-shift* from the philosophers' usual emphasis on exact or inexact similarity between *objects* (that need a *respect* in which they are similar) to exact or inexact similarity between a specific property or *respect* (of an object), which, since already detected or specified, needs no *further* respect in which to be similar or dissimilar. It is a similarity *simpliciter* between one, unique, individual specific property instance and some other property instance, such as a *specific* hue or saturation or brightness.

Such reflections can affect how we think in developmental psychology. An infant or an adult can be selectively attending to a specific property of an object or to exactly similar specific properties of a number of objects without attending to the object or objects themselves. An agent's exercising the natural and basic capacity to detect and come to fix upon some specific property arousing the agent's interest, enables the agent to group exactly similar properties either of different parts of the same object or of different objects. Rather than treating the *object* as prime individual, agents can discriminate between these properties and relations and dissimilar properties and relations as specific individuals (a specific movement or relations of position or a specific hue or shape) and then treat differences and similarities between objects as needing selective attention to further property-respect individuals *about* the prime-individual object. An agent can do these things without the need for further respects.

This account answers one common objection to property-individuals. You are able to detect distinct instantiations of the same universal in the universals account, yet you can do this only by noting a *similarity* between these instantiations. In this account, when the similarity becomes *exact* similarity, it becomes identity. I opt for treating instantiations as individuals.

The natural direction for detecting, discriminating, recognizing, or identifying properties is through the perception of what is demarcated

about an object through its 'outline' marked and bounded (allowing for occasional 'overlap') by differences and similarities, exact and less-than-exact, from and to what else is within perception *about* the object and its environment. This can be achieved at the most primitive level of detection and also at the higher levels of discriminatory, recognitional, and identificatory responses required for cognitive expertise. Whether you prefer a many-exactly-similar-tropes view or a many-instantiations-of-one-universal view, you will see agents as acquiring cognitive skills reacting to similarities and differences concerning properties *gradually*. If there are many exact similarities, it is natural for us to *group* them.

Noting (1) the physical extent and/or duration of some *one* simple property—universal in a particular instantiation or set of many instantiations, and noting (2) the physical extent and/or duration of some simple trope or set of exactly similar trope, appear to be strikingly similar procedures.

At the ontological level, whichever of these notations one uses (and the tropes versus universals issue might come to no more than that), it is the resemblance or difference between the properties of objects, events, or states of affairs that is basic to the resemblance or difference between objects, events, or states of affairs. Objects are similar to and different from one another *by virtue* of the similarity to and difference from different things *about* (properties of) the objects.

This ontological-epistemological model is a corrective to overly object-oriented and misleading accounts of the perceptual and conceptual development of infants in the womb and the very young. An experimental subject might be struck by movements, colours, sounds, and textures more than by enduring objects. Even as adults, we can be as the infant, that is, in total disregard of what *has* the qualities or properties with which we happen to be wholly absorbed. This often is the case with painters, composers, and even more pedestrian sensualists.

The 'respects' are there as spatiotemporal individuals, namely, as individual properties (*not* as universals, but instead as *this* red and *that* exactly similar—yet numerically different—red). They are perfectly objective and in their similarities and differences provide *simpler* what is basic to whatever similarities and differences obtain for the object.

The innumerable *interrelatings* between various property instances of things, events, and states have ready-made mind-independent and

classification-independent reifications for *alternative* modes of classifying things. The manifold of colours (leaving aside the secondary-quality question) contains interrelatings between these colours that are ready-made for countless modes of classifying the colours, whether or not any such classifying activities ever exist. Any particular kind or universal consists of similar interrelatingness instances between similar property-instances.

If you were to reject the ultimacy of objects and replace them with space-time segments, 'worms,' or fields, there would still be properties—things *about* or things *had* by these segments or fields that would not be those segments or fields themselves or *parts* of them. These properties would be more than mere mathematicized measures. Even concerning such elementary particles, fields, or space-time representations, there is a need for more than quantities and numbers. Every quantity or measure is such only by virtue of there being qualities *for* or *of* which it is the quantity or measure. The alternative is an unacceptably empty desert of Pythagoreanism unsurprisingly endorsed by Quine in 'Whither physical objects?' (Quine 1976).

7.3 CLASSIFICATION AND COMPOSITION

The anti-realist notes that there can be alternative ways of classifying nature and falsely concludes that the world is indeterminate and classification-dependent. On the contrary, a completely realist way of representing the manifold variety of nature is available (Martin 1993).

Such factors as the stability and (observable) reproducibility of some varieties rather than others of interrelated properties in nature make some modes of classifying things more 'natural' or 'useful' than others. Factors concerning the evolution of the complex structures of classifying organisms themselves correlate with this. For instance, some interrelatings of properties rather than others produce figure-ground perceptions that provide for greater ease of recognition and interest, which in turn produce conditions for the movement, sustenance, and survival of the organism. An organism must be selective and reject or ignore most of the interactivities and interrelatednesses that exist in nature. The organism would not survive if it tried to accommodate the endless variety of interrelatednesses in nature in its classifications. Of course, it does not follow either that the unselected interrelatednesses are not just as *real* as the selected ones, or that there are not limits

to the scope of interrelatednesses. Square and round pegs do not fit the same way into square holes and round holes. Furthermore, some relationships of properties simply do not obtain, such as those required for the existence of a unicorn, for example.

Believing what is false might be helpful for survival, even, on occasion, necessary to it. There seems no *a priori* limit to place on this (*contra* Davidson), but let us take the more optimistic view that the human organism has one of the best classificatory mechanisms that nature can provide, a mechanism eminently useful for discovering at least something of what is basic in nature. This mechanism includes both perceptual classificatory capacities and extrapolatory (from perception) capacities. The extrapolatory capacity is used to fashion explanations of the more complex and directly observable in terms of the simpler. That is, complex things with their complex properties and complex interrelations as various wholes can be explained by reference to their having a composition or constitution of simple or simpler parts with simple or simpler properties and relations that are not directly observable.

7.4 CAPACITIES AND DISPOSITIONS

Before moving ahead, it will be helpful to settle on some terminology. Picking one term to do all the work that my use of the term 'disposition' is supposed to do is asking a lot of any single word. Some explanation will, I hope, show that the choice of words has not been thoughtless.

The difference between capacities and dispositions disappears once you ask, 'Under what conditions (reciprocal disposition partners) would the capacity be exercised?' If the answer is 'None,' then that is a null capacity. If the answer is 'No *determinate* conditions,' then the reply is 'Waffie!' If the answer is 'I cannot say exactly,' then the reply is 'Of course—but try for *inexact*, if you can.'

Capacities are capacities *for* (dispositions *for*) their exercises or fulfillments (mutual manifestations) under certain conditions (reciprocal disposition partners).

Differences in the circumstances of usage of 'capacity,' 'tendency,' and 'proclivity' lie in what is presumed to be the degree of availability or proximity of (spatially or temporally) reciprocal disposition partners or, perhaps, the degree to which there is the *start* of a process toward a result that would need the *loss* of reciprocal disposition partners, or

the *introduction* of a reciprocal prohibitive disposition partner, to stop or interfere with the culmination of the mutual manifestation.

'Capacity' can also be used as the most nonspecific indicator of a disposition's reciprocal disposition partners for mutual manifestation.

I will continue to use the terms 'disposition' and 'manifestation' as the basic causal terms.

Expressing the qualitativity and dispositionality of any real property merely as 'a way of thinking of, mode of prediction concerning, way of regarding or looking at, etc.' suggests that it is merely in the eye (or voice) of the beholder. If those who use such deontologizing expressions intend to claim anthropomorphism, then they should make *that* ontology fully explicit. If they do not intend to endorse anthropomorphism, however, they should join in the task of saying clearly *what* in the world the expressions indicate.

Dispositions, I have suggested, come in at least three classes:

- (1) Dispositions such as solubility are such that what is soluble when the solubility is manifested, by its going into solution, thereby ceases to be soluble. What is in solution, however, can be recovered from the solution and become soluble again.
- (2) Dispositions such as explosiveness are such that what is explosive when the explosiveness is manifested is not recovered from the explosion by its being exploded and does not become explosive again.
- (3) Dispositions such as the soundness of a bridge are such that what is sound when the soundness is manifested does not then cease to have soundness by its performing soundly.

I shall mainly be concerned with dispositions in the third group.

All intrinsic properties are dispositional, and dispositionality is fully real and actual. Dispositions can be actual even if their manifestations are not. The properties of elementary particles or spatiotemporal segments of fields are not structural states, yet such properties are not in pure act, that is, manifesting at each moment or temporal stage all of which they are capable. The particles have dispositions, not all of which they are always manifesting, and in the nature of the case *qua* elementary particles, their dispositionality is not explained in terms of the properties of their constituents. I have already (Chapter 2) argued against explaining dispositions in terms of counterfactuals and will not repeat those arguments here.

Trying to account for dispositionality in terms of structural states is misguided, not only because what is structural is *evidently* intrinsically dispositional *itself*, but more importantly because the issue can be more clearly discussed in terms of *nonstructural* properties. A great advantage of discussing properties at the nonstructural, nonmacroscopic, elementary particle or elementary aspects-of-fields level is that we can thereby avoid some reduction vs. nonreduction debates.

Discussion at a structural or macroscopic level is vitiated by debate concerning whether the properties at the higher level are anything over and above properties at a lower level, with the usual gesturing toward all of the many varieties of supervenience that are at best ontologically toothless. Discussion at an elementary particle level (even with epistemic qualms) stops moves attempting to account for such properties in terms of still other properties at a *lower* level because (if we are epistemically lucky) there *aren't* any!

I devised the following case in the mid-1950s as a counterexample to verificationism and later as a counterexample to many reductive accounts of causal dispositions including Quine's account in *Word and Object* (Quine 1960: 222-6). Quine claims that an unmanifested disposition is explicable in terms of an object having a structure similar to a structure of an object that has manifested the supposed disposition.

My case is one of a cosmic geographical fact concerning the spatiotemporal spread of kinds of elementary particle. It is supposed that there are kinds of elementary particle in some spatiotemporal region of the universe that are different from the kinds of elementary particle of our own region, that the regions are so vastly distant that the many special dispositions they have for intercourse with one another *never* have and never will have their very special manifestations, and that nothing else in the universe, in the nature of the case, is *like* them that does have the manifestations. But the particles have causal dispositions ready to go. The dispositional is as real and irreducible as the categorical. (Or, as I would prefer to say, the dispositional is as real and irreducible as the *qualitative*. Talking of the distinction as being between the dispositional and the categorical can suggest that dispositionality is not really categorical, not really 'there' in the object.)

On one occasion when I referred to this case, a devoted Quinean replied, 'And if pigs had wings they would fly.' When I complained that he did not know any better than I did that this was not a *true* case, he responded, 'And if pigs had wings they would fly.' (I did not

have the wit on the occasion to point out the somewhat irrelevant truth that if pigs had wings they *still* would not fly.)

Cause and effect itself should be explained in the more basic terms of the mutual manifestation of reciprocal disposition partners. Dispositionality and manifestation are well equipped to deal with elementary particles because even a quark is capable of more than it manifests at any time, given different reciprocal disposition partners. Start with any disposition partner and you find a network—a Power Net. (This should be useful in the characterization of nonlocal causality, if needed, in physics.)

Any disposition is one among many alternative reciprocal disposition partners for some mutual manifestations.

A typical causal situation is Locke's case of the turning with a particular force of a key of a particular shape, size, and hardness, etc., in a lock of a particular shape, size, and hardness, etc., which is showing a particular force of resistance or lack of resistance, etc., to the key for their *mutual* manifestation of an unlocking.

The reciprocity of dispositional states for their mutual manifestations that are their *common* product is deep and complex. This reciprocity should not be expressed in terms of unhelpful distinctions such as power to give *vs.* power to receive, agent *vs.* patient, active *vs.* passive, causal conditions *vs.* standing conditions: what?—standing *by*?! Instead, *whatever* is causally operative should have its full status as reciprocal or collaborative disposition partner for a mutual manifestation.

The important point remains that the manifestation of *one* dispositional state requires reciprocal disposition partners, *if they exist* and are in the relevant relationship. A match's lighting is a mutual manifestation of the dispositional state of the match that needs to be a reciprocal partner with the cooperation of the reciprocal or collaborative disposition partner of the enfolding oxygen among a great deal else.

This view of the innumerable interconnectednesses and dispositional reciprocities of properties, largely unknown but existent still, contrasts with the simple-minded view that because nature does not lay out The Cause of each event, causality itself is mind-dependent.

A dispositional state is *there* in the most simple or complex physical instances or psychological instances. It is there to provide the relevant richness of alternative manifestations with its multiple alternative reciprocal disposition partners, some of which would be mutually

exclusive in their actualization, but *ready to go* for present, distant, non-existent, or even *never-existent* manifestation conditions, that is, reciprocal disposition partners.

With reciprocal disposition partners *each* being for the *mutual* manifestation, *each* must have the directedness and selectivity *for* such a manifestation. If, by misfortune, one or more partners does not in fact *exist*, the reaching out, directedness, and selectivity *for* their manifestation is fully contained in the existent partner.

Water has the directedness of a dispositionality as solvent *for* salt and *not* gold, even without the existence of salt, for the *mutual* manifestation of a coming into a solution of salinity. And salt has a directedness and dispositionality as soluble in water and not *aqua regia*, even without the existence of water, for that same *mutual* manifestation of a coming into a solution of salinity. An existent reciprocal partner entity having the directedness of an existent disposition is needed, but *any* existent reciprocal partner is sufficient and does not need the existence of its other reciprocal partners for the existence of its directedness to what would be *their* mutual manifestation.

7.5 FORMS OF INFINITY

- (1) The disposition of a particular thermostat is directive and selective to a *particular* furnace to which it is connected at t, P_1 for the *alternative mutual* manifestations of degrees of change in heat *with* alternative reciprocal disposition partners of a cat's tail, falling plaster, the coat sleeve of the butcher, the horn of a unicorn, or . . . altering the set point of the thermostat. This appears to be infinite.
- (2) The disposition of a quark is directive and selective *for* the mutual manifestations of a *particular* kind with particular kinds of reciprocal disposition partners of various arrangements of its quark cousins, *whenever* or *whenever* they may be. It has its disposition readiness for them, even if they were to cease to exist. This appears to be infinite.
- (3) The disposition of a quark is directive and selective *for* the alternative mutual manifestations of *various* kinds with alternative kinds of reciprocal disposition partners proximate, distant, unreachable, and of kinds that may not even exist. This appears to be infinite.
- (4) The disposition of anything is likely not at all places and times, so it will be finite in duration and extension. The infinity of

directedness and selectiveness of any disposition, however, is from the here and now to an infinite number (any anywhere, anytime) of reciprocal disposition partners of a particular kind for a particular kind of mutual manifestation or for any number of reciprocal disposition partners (actual and non-actual) of different kinds for different kinds of mutual manifestation. The duration of a disposition helps verification, but that is irrelevant to the ontology.

7.6 DISTINGUISHING DISPOSITIONALITIES

There cannot be exactly similar dispositional states in exactly similar reciprocal partnerships for different mutual manifestations. If the dispositional states are *complex*, then, in a way, there can be different dispositional state partners that have similar mutual manifestations. That is, among the different aspects of the mutual manifestations there also could be similar aspects. It is clear that the same dispositional state can have different mutual manifestations with different reciprocal disposition partners. For example, the same water thrown on burning wood or burning oil on water has very different consequences. (I take up this example in greater detail below.)

What we tend to select as *the* dispositional state for a particular kind of mutual manifestation is a reciprocal disposition partner that has the greatest stability and availability to its varying reciprocal disposition partners or, more trivially, that happens to be of the greatest interest to us. What a dispositional state is depends, not only on for which alternative partners it is, but also for which alternative partners it is *not*, and even against which alternative partners it is prohibitive.

7.7 THE RECIPROCITY OF MANIFESTATIONS

No dispositional state is bound to its manifestations independently of its possible differing reciprocal disposition partners. The concept of reciprocal disposition partnership for mutual manifestation loosens the simplistic linguistic bondage of a specific and unique dispositionality for a specific and unique manifestation. Instead, it allows that the *identical* dispositional state with *different* reciprocal disposition partners can have *different* mutual manifestations. The same dispositional state will vary in the nature of its manifestation as it plays its

role as reciprocal disposition partner in varying mutual manifestations with its varying reciprocal disposition partners. The differences can be striking.

Consider the case of burning wood and burning oil mentioned previously.¹ Water thrown on burning wood and the very same water thrown on oil burning on water results in strikingly different mutual manifestations owing to differences between the reciprocal disposition partners in the burning wood and the oil burning on water. In wood fires, water acts as an extinguisher by (a) effectively covering up the microstructure of wood, sealing it from the oxygen needed to advance the combustion through the wood, and (b) generating steam and otherwise absorbing thermal energy required for the combustion to advance through the wood. In the case of an oil fire, water (a) does *not* seal the oil from the air, but rather sinks beneath the oil, while (b) absorbing combustive thermal energy; if the water reaches its boiling point, however, steam will rise quickly through the oil with such kinetic energy that it impels oil particles into the air, thereby dramatically increasing the aggregate exposure of carbohydrates to oxygen, which radically increases the rate of combustion—which can, in turn, increase the quantity of steam generated, thus creating an explosive positive feedback loop. This effect is the opposite of the reduction of carbohydrate exposure to oxygen in the wood case. *The shared disposition is the dousing water's tendency to absorb thermal energy to the point of creating steam.* In one case, the disposition in the reaction of the steam helps for the mutual manifestation to extinguish the fire, whereas in the other it contributes to the mutual manifestation of exacerbating the fire. One disposition manifests itself in two wholly different ways given different reciprocal partners.

Similarly, according to the dispositional nature of the receptor sites in the post-synaptic membrane, the capacity of the synapses from the pre-synaptic membrane can, with the introduction of acetylcholine (ACh), be inhibitory or excitatory in its manifestation, whether receptors in the post-synaptic cells are masked or not masked. The capacity state of the synapses from the pre-synaptic membrane remains exactly the same with identical dispositionalities. The only difference lies in the difference in their reciprocal disposition partners (the receptors in the post-synaptic cells) allowing differences in their mutual manifestations.

¹ I was greatly helped in the expression of the details of this case by Kevin Sauvé.

This becomes particularly obvious in mental cases. A smiling face could be a reciprocal partner for very different and indeed opposite mutual manifestations, depending on which of its alternative reciprocal disposition partners are present and involved. A disposition can have antagonistic reciprocal disposition partners that even extinguish it or block it. And of course a disposition can have, in a particular situation or *forever*, no existing relevant reciprocal disposition partner.

7.8 DISPOSITIONALITY OF MANIFESTATIONS

In thinking of how to give an account of dispositions, it could be tempting to treat manifestations as themselves disposition-free or at least not to raise the question of their dispositionality. This would be a gross error. Salt manifesting its solubility in water by the manifestation of dissolving can be such only if the salt in solution is recoverable. Whatever is involved in the manifestation event *itself* is not in pure act, that is, manifesting everything of which it is capable. One cannot hope for disposition-free manifestations.

D. M. Armstrong has provided a counterexample to the notion of causality as the mutual manifestation of reciprocal disposition partners. Armstrong's case of the previous state of a thing causing its own successive state without having any reciprocal disposition partners is a case of an entity that exists in and for itself, absolutely independently of everything else (including electromagnetic and gravity fields of force, etc.). Even so, it is not an example of a total lack of reciprocal disposition partners. A previous state x of a thing a at t_1 has *innumerable* reciprocal dispositional partners in *other* states of a at t_1 for the continuance of state x of a at t_2 . Armstrong would need an object with only a single simple irreducible state—perhaps God.

It becomes obvious that dispositionalities are prior to, more basic, and far more numerous than their mutual manifestations, that is, causes and effects. A particular kind of cause and effect might not exist although the relevant dispositions *do* exist, but a kind of cause and effect cannot exist if the relevant dispositions do not exist. As such, ontological priority and candor require cause and effect to be explained in terms of reciprocal disposition partners in their mutual manifestation and not *vice versa*. Disposition and manifestation are the basic categories by means of which cause and effect are to be explained. A manifestation of a dispositional state should be seen in

depth as a change that might endure for less than a billionth of a millisecond—not long enough for observation, except indirectly as the observation of traces.

Manifestations and dispositions are correlative. A manifestation is what it is only as *from* a relevantly deep enough and broad enough Disposition Base Array, and a disposition base array is what it is only as *for* kinds of alternative manifestation under alternative kinds of condition.

8

Protolanguage

8.1 PRELINGUISTIC SEMANTICS

The adage, 'To be is to be the value of a variable,' *should* cause laughter. In this chapter I attempt to reveal the richness of what is both prior and basic to language. There was life before language in the history of the race and the individual. The development of the preverbal activity of the race and the individual is a progression by degrees from semantic ooze to sophisticated nonlinguistic patterns of interrelated behaviour, both shared and unshared.

The battle over the primacy of language could well have been largely won in showing that prelinguistic and nonlinguistic behaviour can be complex and intentional (Kirk 1967; Bennett 1976; Martin 1984b). In this chapter, I take the battle against the persistent mystique of language still further, arguing that nonlinguistic activity at its most sophisticated and structured levels has a remarkable pattern of parallels to linguistic activity. It is a matter of degree, but when an agent shows enough of this pattern of parallels, this structured network of interrelated procedural activity could be called 'protolanguage.' Bear in mind that the development of linguistic behaviour is also a matter of degree.

We can make a new beginning toward seeing that nonverbal activity itself can have semantic point by remembering that if we have not (by some supposition, assumption, or actual observation) settled on or hypothesized concerning an interpretation of some other linguistic group's complex and interrelated *nonverbal* doings in and *with* their physical environment, then there is no alternative nonmagical route to the semantic point of their *sayings*. Our knowledge of, or supposition concerning, another linguistic group's nonverbal doings is basic to, prior to, and *easier* to ascertain than knowledge of the group's sayings.