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DEWEY'S METAPHYSICS OF MIND

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Abstract
In *Experience and Nature* Dewey makes "an attempt to contribute to what has come to be called an 'emergent' theory of mind". On a first approach, that doesn't look very innovative to our contemporary materialist convictions. Indeed, Kim argues persuasively that a central claim of emergentism—concerning the irreducibility of emergent properties—is irremediably at odds with a view of mental causation that follows from some very plausible physicalist assumptions. This is "the problem of downward causation." I intend to show that Dewey's brand of emergentism actually allows an adequate reply to the very important worry formulated by Kim.

1. A contribution to an "emergent" theory of mind

There is much in the writings of John Dewey that is now only of historical interest. In many passages, however, Dewey seems surprisingly to be addressing issues that have high priority in our contemporary agenda. This applies specially to the remarks on the metaphysics of mental events as presented in Chapter VII ("Nature, Life and Mind-Body") of *Experience and Nature*.[1] Dewey makes here "an attempt to contribute to what has come to be called an 'emergent' theory of mind" (271). He conceives of these remarks as a rethinking of the premises and assumptions leading to the mind-body problem and the theories offered as "solutions" to it, which "range from the materialism of Hobbes, the apparatus of soul, pineal glands, animal spirits of Descartes, to interactionism, pre-established harmony, occasionalism, parallelism, pan-psychic idealism, epiphenomenalism, and the *élan vital*" (252). On a first approach, that doesn't look very innovative to our contemporary materialist convictions. Indeed, as Jaegwon Kim points out,[2] emergentism was a first attempt to formulate the doctrine of nonreductive materialism. It flourished during the first half of the twentieth century and

[1] Dewey (1958). Numbers in parentheses refer to the pages of this book.
[2] In Kim (1998: 226).

gave away to those forms of nonreductive materialism that substitute supervenience or realization relations for the more or less metaphorical "emergence of higher-level properties." Moreover, Kim argues persuasively that a central claim of emergentism—concerning the irreducibility of emergent properties—is irremediably at odds with a view of mental causation that follows from some very plausible physicalist assumptions. This is "the problem of downward causation." As I intend to show that Dewey's brand of emergentism actually allows an adequate reply to the very important worry formulated by Kim, I will start with a brief characterization of the problem of downward causation.[3]

2. The problem of downward causation

Consider the case, where the instantiation of an emergent property *M* causes the instantiation of another emergent property *M**. The emergentist assumes that the appearance of emergent properties depends on the presence of appropriate basal conditions. Also, the emergentist is a physicalist in the sense that physical conditions ultimately determine the instantiation of all the properties there are. So we have for the emergent property *M** a determining physical property *P**. The counterfactual implication of *M*'s claim as a cause of *M** says that *M** could not have been instantiated, if *M* were not present on this occasion. The determination relation between *P** and *M**, on the other hand, implies that unless *P** were present on this occasion, *M** could not have been instantiated. The plausibly coherent description of the situation seems to be: the instantiation of *M* causes the instantiation of *M** *by causing* the instantiation of *P** in the first place; the later instantiation determines then the instantiation of *M**. The first part of this description is of course downward causation. To it the emergentist is committed. For, as Kim argues, if emergent properties are really new, then the causal powers associated with them are irreducibly distinct from the causal powers of the properties defining the conditions out of which they emerge. This means that the causal role of *M* in the process by which *P** is brought about cannot be "preempted" by any physical property. However, as we have a good reason to assume that the instantiation of P* has as its cause an instantiation of another physical property—this reason being derived from the assumption that the physical world is

[3] I will draw here on Kim (1998: 229-233).

causally closed—, the purported distinctness of emergent causal powers results in the weird supposition that physical phenomena underlying emergent phenomena are systematically overdetermined. They are overdetermined in the sense that they have two independent causes, a physical cause and an emergent one. The weirdness of the supposition comes from the fact that the joint operation of two causes, each one being sufficient to bring about the effect, should manifest itself not occasionally, but *whenever there is causation by emergent properties*. Moreover, if we decide to apply to the relation between the emergent property *M* and its emergence-base *P* the same reasoning applied to the relation between *M** and *P**, we arrive at the conclusion that it is ultimately *in virtue of* some necessarily co-instantiated physical property *P* that the instantiation of *M* causes the instantiation of *P** (and also the instantiation of *M**). While this would solve the problem of massive overdetermination of physical phenomena, it would also make higher-level causal relations ultimately dependent on, derivative from the causal processes at the physical level: all irreducible causal powers would turn out to be physical properties. Kim is right when he points out that the emergentist, committed as she is to downward causation, could hardly accept this view of higher-level causation. But the only alternative seems to be the abandonment of the physical causal closure, which is not really open for the emergentist, insofar as she keeps committed to physicalism.

3. A multilayered model of the world: "physical," "psycho-physical" and "mental"

Dewey's brand of emergentism agrees with Kim's emergentist in giving the physical a fundamental role in a multilayered model of the world. Actually, the model proposed by Dewey distinguishes three such layers, three fields of interaction among events *that are ontologically homogeneous*. The layers are termed by Dewey "physical," "psycho-physical," and "mental;" and the distinction between them is "one of levels of increasing complexity and intimacy of interaction *among natural events*" (261, my emphasis). Accordingly, "the idea that matter, life and mind represent separate kinds of Being" (261) is in Dewey's view a "philosophic error." For the layers proposed by Dewey reflect only differences in the way natural, ultimately physical events are connected: while there is in his ontology no isolated occurrence in nature, "interaction and connection are not wholesale and homogeneous" (271).

The first layer, "the scene of narrower and more external interactions," is "physical." Dewey associates with this layer the properties "of the mathematical-mechanical system discovered by physics and which define matter as a general character" (272). The second layer is "psycho-physical." It doesn't mean "an abrogation of the physico-chemical" or "a peculiar mixture of something physical and something psychical" (255). All that is implied in the idea of psycho-physical is a certain degree of organization as an empirical trait of some events. The peculiar organization justifies the choice of "life" as a general character of the events on this level. In this sense "there is no problem of the relation of physical *and* psychic" (255). Living activity is essentially characterized "by needs, by efforts which are active demands to satisfy needs, and satisfactions" (252). Dewey immediately explains the intended sense of these words in terms of completely physical conditions: "tensional distribution of energies," "states of uneasy or unstable equilibrium," "movements which modify environing bodies," "recovery of equilibrium pattern" (253). That is why his theory makes no ontological difference between life processes and the activity of inanimate bodies.

> The difference between the animate plant and the inanimate iron molecule is not that the former has something in addition to physico-chemical energy; it lies in the *way* in which physico-chemical energies are interconnected and operate, whence different *consequences* mark inanimate and animate activity respectively. (253f.)

Finally, the third layer in Dewey's model of the world is that of mind. In this somehow peculiar sense, mind is "a further process in life" (281), "a new scheme of affairs to which both organic and environmental relations contribute, and in which they both partake" (283). The important point is that the mental, as well as the psycho-physical, is ontologically homogeneous with the physical. "The external or environmental affairs, primarily implicated in living processes and later implicated in discourse … are as 'physical' as ever they were" (285). The relevant difference between mind and the physical is not to be understood in terms of being, but again in terms of the organization and the degree of connection among natural events. Association, communication and participation represent for Dewey a form of integration of organic-environmental connections, which is vastly superior to those of animals without language, and which endows the events so connected—and, by extension, the organisms involved—with new properties properly termed "mental." This is summed up in the definition of mind as "an

added property assumed by a feeling creature, when it reaches that organized interaction with other creatures which is language, communication" (258) or as "what actually takes place when a living body is implicated in situations of discourse, communication and participation" (285).

Ontological continuity between physical and mental is further guaranteed by empirical facts such

> … that animals are connected with each other in inclusive schemes of behavior by means of signaling acts, in consequence of which certain acts are deferred until a joint action made possible by the signaling occurs. In the human being, this function becomes language, communication, discourse, in virtue of which the consequences of the experience of one form of life are integrated in the behavior of others. (280)

As there is, in Dewey's view, no philosophical problem of the relation of organic life *and* the physical, there is likewise no problem of the relation between mind *and* body. Organic acts, which are only peculiar ways of operation of physico-chemical energies, are "a kind of fore-action of mind" (282). They turn to full-fledged mental acts when "organisms get more complex and human" and their ability to procure support of needs from surrounding media "involves more extensive and more enduring changes in the environmental order" (283). All relevant distinctions here are differences in degree. Vital acts of utilization, of biological adaptation, form for Dewey the "immediate material of thought when social communication and discourse supervene" (270). Through the organism's participation in communicative interactions, biological acts acquire sense and meaning, but they also *persist* and "supply mind with its footing and connection in nature" (290). "Our physical names for mental acts like seeing, grasping, searching, affirming, acquiescing, spurning, comprehending, affection, emotion are not just 'metaphors'" (290). As Dewey frequently points out, meanings, the mental items *par excellence*, are meanings *of*: they "intrinsically have reference to natural events" (288). Even mental images and "ideas," as the conscious, *qualitative* aspects of meanings, are in Dewey's view only further properties "of *partial* organic behaviors, which are their 'stuff'" (291).

For Dewey, it is only "natural" that, as the functions of mind developed out of organized patterns of physiological and vital affairs, "the presence and operation of meanings" (290) constituting mind just *is* the use of "structures which are biological adaptations of organism and environment," these structures being mind's "own and only

organs" (277). "If thinking is naturally serial with biological functions … it will have as the material of thought, even of its erratic imaginings, the events and connections of this environment" (279). Accordingly, a mind essentially involves "a world or nature temporally and spatially 'external' to itself but 'internal' to its functions" (278).

4. A contextualist account of qualitative differences: having and knowing

Although some influent contemporary philosophers of mind—to mention just a few: Thomas Nagel, Ned Block, David Chalmers—could perhaps accept Dewey's naturalist and *externalist*, *contextualist* account of the mind's *functions*, they would insist that the more *qualitative* aspects of mental states cannot be captured by it. At least some mental states, these philosophers would argue, have "subjective characters" (Perry), of which we are immediately conscious. These are the "qualia," the "what-it-is-like" properties of conscious events, which are supposed to be *intrinsic* to conscious events and which would presumably resist any "reductionist" attempt as put forward by Dewey's contextualist theory of mind. Here is how John Perry defines them:

> It seems clear … that the subjective character of a mental state is not an historical or contextual property of it. It is a property of it that is determined by current inner events. The phenomenal event will typically have external causes and effects, and it may have many current properties that are determined by such external factors. But the subjective character of the event will not be one of these properties. The subjective character is a matter of what it's like to be in the state, not its typical causes, nor its causes on a given occasion.[4]

Now, one of the most remarkable features of Dewey's emergentism is its explicit recognition of qualitative differences in mental events. In his view qualities are for real. Not by chance, Dewey's preferred word for emergent features just is "qualities." While it is initially and frequently used by him in the sense of "objective" properties of natural events, which are accessible from the "third person" point of view, it is also interestingly connected with the conscious, "first person" aspects of experience aimed at by the above mentioned philosophers. A remarkable instance of this double sense is the assertion that "in feeling a quality exists as quality" (266).

This view requires comment. A good starting point is the claim that the "basis of sensitivity," as Dewey puts it, is given when the activities of the parts of an organism

[4] Perry (2001: 35).

are so organized as to tend to perpetuate the whole patterned activity of which they are parts. "This pervasive operative presence of the whole in the part and of the part in the whole constitutes susceptibility—the capacity of feeling" (256). Psycho-physical interactions involving even lower forms of life already show this capacity, irrespective of the fact that it can remain unrealized. For the constituent parts of even a plant or a lower animal tend to act *selectively* in the environment so as to maintain the organized body to which they belong. Locomotive organs and distance-receptors as found in higher animals bring with them a substantial enhancement of this selective power involved in the maintenance of vitally relevant patterns of energy-organization. Organically connected with the remote as well as with the nearby, mobile animals endowed with organs for distal events are able to act "with reference to a spread-out environment as a single situation" (279). Psycho-physical activities are then organized into a comprehensive unity such that the present phase embodies cumulatively what has occurred and, at same time, anticipates encounters with the realities of the environment having to do with needs and their satisfaction. "Each immediate preparatory response is suffused with the consummatory tone of sex or food or security to which it contributes" (257). Dewey states that in this case sensitivity is "realized as feeling, even though only as vague and massive uneasiness, comfort, vigor and exhaustion" (256).

The operative assumption behind this statement seems to be that the states of a higher animal's body, connected as they are to events in the environment, put the organism in condition simply to have sensations or "feelings" that reflect qualitatively the total organic disposition of the body and, by extension, the inclusive happenings "outside." (Dewey's is a *representational* theory of the conscious mind, as it has been recently—and exemplarily—developed by Michel Tye.[5]) This is not tantamount to the assumption of a mysterious mode of cognitive access to the world. And the main reason why the later assumption is not part of Dewey's theory, is explicit in Dewey's denial that the organism is always aware of its "feelings" in the sense of their being *epistemically accessible* to it. Normally, the organism is not aware of the distal events in the "external" world represented in its "feelings." Neither must the organism be aware of the "surrogate events" in the nervous system—that is, of the proximal aspects immediately reflected in qualitative differences presented "in the having:"

[5] Tye (1995).

> Complex and active animals *have*, therefore, feelings which vary abundantly in quality corresponding to distinctive directions and phases—initiating, mediating, fulfilling or frustrating—of activities, bound up in distinctive connections with environmental affairs. They have them, but they do not know they have them. (258)

By *having* sensations the organism can be put in a condition conducive to its *knowing* them—if *other* conditions are satisfied.[6] The latter include for Dewey the *discrimination* of the submerged unidentified qualities or general tones of whole situations—the vague feelings characteristic of psycho-physical activities in animals—through their use "as common and shared means to common ends" (260). To become specifically known (and therefore "mental"), differences in immediate sentience must be "employed as indications of acts performed and to be performed and as signs of their consequences" (258). Dewey is at pains to make it plausible that language and social intercourse are necessary means for the "objectification" of immediate qualitative differences as the cognitive contents of our epistemic states. *Discriminated* qualities, that is, qualities referred to "external" aspects, are "meanings" in Dewey's sense of the word. Being incorporated in a system of signs pointing actively to vital aspects of the relationship of the organism and the natural and social environment, immediate qualities acquire the "sense" of the consequences they have in living and become meanings. They turn then to "traits of things."

> To term a quality "hunger," to name it, is to refer to an object, to food, to that which will satisfy it, towards which the active situation moves. Similarly, to name another quality "red," is to direct an interaction between an organism and a thing to some object which fulfills the demand or need of the situation. … organically conditioned qualities … are discriminated only as they are employed to designate objects; red, for instance, as the property of a dress or toy. … The child has to learn through social intercourse that certain qualities of action mean greediness or anger or fear or rudeness; the case is not otherwise with those qualities which are identified as red, musical tone, a foul odor. (259f.)

There are thus two mechanisms connecting immediate qualities to environing features. By the operation of the first mechanism, properties of organic interactions are realized in the organism as qualitative differences in sentience. On this level, qualities are simply felt, that is, merely *had*, not *known*. The second mechanism endows felt qualities with

[6] "Sentiency in itself is anoetic; it exists as any immediate quality exists, but nevertheless it is an indispensable means of any noetic function." (259)

sense, by referring them back to their causes and active consequences. Immediate qualities become on this level meanings, qualities simultaneously had *and* known. The second mechanism presupposes of course the first. Both mechanisms may be so complex as to defy a detailed theoretical description. But they are not problematic from the philosophical point of view. The first mechanism can be made equivalent to the nervous system, "the mechanism of the connection or integration of acts" (293), if we are prepared to see "the nervous system in organism," "the organism *in* nature," where the *in*-relation, as Dewey insists, has beyond the spatial dimension also a temporal one: "when thus seen they will be seen to be *in*, not as marbles in a box but as events are in history, in a moving, growing never finished process" (295).[7]

The second mechanism is much more complex, involving as it does communication and social intercourse. Irrespective, however, of how exactly we come to have knowledge of our qualitative states, the mechanism doesn't seem to depend on philosophically mysterious principles concerning essentially private, non-natural entities. After all, as psycho-physical properties, "the qualities never were 'in' the organism; they always were qualities of interactions in which both extra-organic things and organisms partake" (259). Dewey is aware that a lot more must be said about the process by which immediate qualities are "objectified" as traits of things by being referred back to their contextual origins. He is only urging that if an organism is able to use qualitative differences as successful indications of consequences of acts past and future, this operation will have the character of knowledge.

It is worth noticing how Dewey's contextualist account of immediate qualities differs from fashionable theories that identify them with what-it-is-like properties of experiential states. As we saw, these are defined by Perry as intrinsic properties only contingently connected to external causal factors. Accordingly, knowledge of these properties is supposed to be a matter of attending to the experience and recognizing *in it*, in abstraction from all relations to contextual features, the kind of experience that it

[7] Immediately felt qualities, as conceived by Dewey, are therefore akin to the "nonconceptual contents" of representational events in the brain, which are at the very center of Tye's theory of phenomenal consciousness. As such, they are the output side of proprio-ceptors and extero-ceptors "mechanically" attuned to contextual happenings in the natural environment as well as in the body itself. Thus, representational events in the nervous system explain how properties of integrated events previously occurring on the physical level (qualities in the wider sense) are realized as immediately felt qualitative differences (qualities in the narrow sense). This is the content of the cryptic remark that "in feeling a quality exists as quality."

is. The expression of this knowledge is, for instance, "This is what it is like to see red," where the "this" is conceived as an inner demonstrative referring to the type of the experience, that is, to the intrinsic property instantiated in the experience itself. As Perry puts it, "This is what it is like to see red" says "that the normal experience of seeing red is of that type, has that character." And the person uttering this sentence "is using her new experience as an exemplar of the type, in order to refer to the type."[8] Dewey, by contrast, individuates qualitative aspects of experience *relationally*, by reference to "extrinsic" affairs. Qualities in this sense are always qualities *of*: "of inclusive situations" (265), "of events in a peculiar condition" (258), "of action" (260), "*of* cosmic events" (267), "of the active relationship of organism and environment" (259), "of the things engaged as [much as] of the organism" (259). Even when qualities exist only as a general tone of the situation, they are "potentially and proleptically" (258) significant of objective differences in external things. Dewey would also take radically intrinsic properties *à la* Perry to be epistemically inaccessible for us. The very idea of knowledge of what-it-is-like would appear to him as based on "the notion that sensory affections discriminate and identify themselves, apart from discourse, as being colors and sounds, etc." That sensory affections could "thus *ipso facto* constitute certain elementary modes of knowledge, even though it be only knowledge of their own existence," is, however, in Dewey's eyes, only a "preconception about mind and knowledge" (259).

5. The specific causal efficacy of qualities

Thus, qualities are *the* emergent properties in Dewey's emergentism. With reference to them we can discuss all the issues around the problem of downward causation, which, as we saw, is Kim's main instrument to reveal the failure of emergentism as a suitable form of materialism. Let us ask, to begin with, how the causal powers of qualities relate to *physical* causal powers. Although Dewey states that "qualities become specifically effective … in psycho-physical situations" (268) and even associates with qualities "efficacies not displayed by the inanimate" (255), he leaves no doubts that these "new efficacies" do not go *beyond* physical causal powers in a sense contrary to the main tenets of ontological materialism. There is no incoherence here. Notice, first, that

[8] Perry (2001: 78).

qualities have physical conditions for their emergence. Dewey only extends the dependence relation between the occurrence of qualitative properties, on the one hand, and physical properties, on the other hand, to the very *causal relations specifically involving qualities*: "it is in virtue of the character of events termed matter that psycho-physical and intellectual affairs can be differentially determined" (263). Causal facts involving physical processes determine, then, the facts about the causation of events by qualitative properties, so that "what is known about the earlier 'physical' series is applied to interpret and direct vital phenomena" (284). Life and mind, as Dewey puts it, have a "mechanism," which means "an addition to our resources" and without which "education, deliberate modification, rectification, prevention and constructive control would be impossible" (263). Given this "mechanistic" dependence of qualities on physical aspects of the world, it would be wrong to assign direct, non-derivative efficacy to qualities. Indeed, this is for Dewey the error of Greek science, which, as he sees it, tried to describe and explain the world in terms of the efficacy of "qualities like wet and dry, hot and cold, heavy and light and … such qualitative differences in movement as up and down, to and fro, around and around" (265). Dewey's ontology aligns here with the "mechanistic" approach of modern science in its characteristic "denial of causal status (and hence of significance for science) of these and all other direct qualities" (265) and the corresponding replacement of qualitative differences "by non-qualitative indices of number and form" (266f.). "Fruitful science of nature began when inquirers neglected immediate qualities … in behalf of 'primary,' namely, signifying, qualities, and when they treated the latter, although called qualities, not as such but as relations" (263).

However, while the immediate individuality of qualities "is impertinent for science, concerned as the latter is with relationships" (266), there is for Dewey a justifiable way of vindicating Greek science's "underlying assumption that qualities count for something highly important" (268). "When knowing inanimate things, qualities as such may be safely disregarded" (266). At this level, "the career of an event can indeed be fully described without any reference to its having red as a quality" (268). (Dewey's is incidentally a metaphysics of mind that recognizes the principle of the physical causal closure, which is so congenial to contemporary materialism.) But *in life and mind*, qualities can be reinstated in an active, although derivative role. Dewey is very careful

in locating adequately the "new efficacy" of qualities. Thus, he warn us against attributing to them, *apart from organic action*, "efficiencies which qualities possess only through the medium of an organized activity of life and mind" (265). The key element in this account of "new" causal powers is organization *of physical affairs* in comprehensive wholes constituting psycho-physical and mental phenomena. For if life and mind, as we saw, are only "characters" of complex and extensive interactions of events, they do not represent the surreptitiously introduction of mysterious forces or powers beyond what can be found at the purely physical level. The specific efficacy of qualities, as Dewey writes, is not external to the events connected by it: "it is all one with the organization that permeates them, and which in permeating them, converts prior limitations of intensity and direction of energy into actual and intrinsic qualities, or sentient differences" (266).

Hence the "new" causal powers assigned to qualities are really just the "old" physical ones, organized into manageable units. This fact alone is sufficient to block Kim's general argument against emergentism. For it makes it clear that Dewey's emergentism, as opposed to Kim's, is *not* committed to downward causation as an ontologically irreducible form of causation. To be sure, Kim would then immediately deny independent reality to purportedly new, emergent properties that do not have irreducible causal powers of their own. Dewey would counter with an observation to the effect that "the most adequate definition of the basic traits of natural existence can be had only when its properties are most fully displayed" (262)—which they are, Dewey would urge further, when the complexity of interacting events attain the levels of life and mind.

6. Property emergence and emergent causation

In Dewey's theory, facts about causation by higher-level properties emerge from, are determined by, causal facts about physical processes. Therefore, causation of events by emergent properties, that is in our case: causation in virtue of qualities, is itself *emergent causation*. As opposed to downward causation, which is causation *across levels*, it is a case of "same-level" causation. It is entirely deployed on the level of emergent phenomena and connects facts constituted by aspects of a temporally and spatially spread-out environment organized into unity. This shows itself on both sides of

the causal relation. The living organism, to which the causal powers "not displayed by the inanimate" are assigned, "is not just a structure; it is a characteristic way of interactivity which is not simultaneous, all at once but serial" (292). It "acts with reference to a time-spread, a serial order of events, as a unit, just as it does in reference to a unified spatial variety" (279). As to the effects generated by higher-level properties, the behavioral responses of the organism, Dewey argues against their identification with locally individuated tokens of bodily movements. "The remote and the past are 'in' behavior making it what it is. The action called 'organic' is not just that of internal structures; it is an integration of organic-environmental connections" (279).[9] Qualities become then specifically productive of effects by giving rise to a whole "mode of action," to "a certain pattern of energy-organization" (268), whereby "the former terms of a historic process are retained and integrated in this present phase" (281)[10]—that is: *not* by giving rise to "local" movements.

As remarked earlier, facts about higher-level causation have an extensional counterpart on the physical level, where the mechanism of life and mind is located. The point of separating hierarchically the level of life and mind from the physical level is based on the assumption that there are fields of interacting events, which, although extensionally identical with the physical, cannot be *interestingly captured* by the terms of the latter alone. Indeed, Dewey's general argument for emergentism states that, whereas the application of what is known about physical affairs to psycho-physical and mental phenomena is possible and even desirable, "this application does not exhaust their character nor suffice wholly for their description" (284). In agreement with the emphasis put on the incapacity to describe—and this means: to describe *interestingly*—Dewey asserts that each one of the levels in his metaphysical picture of the world "has its own categories," which are fundamentally "categories of description, conceptions required to state the fact in question" (272f.). When dealing with the facts about higher-level causation, we are, therefore, dealing with *non-extensional* relations between

[9] The possibilities of this integration are widened in the case of an organism endowed with the functions of language and communication: "Not merely its own distant world of space-time is involved in its conduct but the world of its fellows." (280)

[10] The most general fact, to which Dewey is calling our attention in these passages, is the one "so much ignored and virtually denied by traditional theories:" "The thing essential to bear in mind is that living as an empirical affair is not something which goes below the skin-surface of an organism: it is always an inclusive affair involving connection, interaction of what is within that organic body and what lies outside in space and time, and with higher organisms far outside." (282)

category-dependent facts, whose individuation reflects, moreover, the explanatory interest of putting the phenomena "in better order, because in a wider context" (284). In particular, Dewey leaves no doubt that his emergentism answers to the interest of countering the "pre-occupation with what is specific, particular, disconnected," in behalf of a holistic "sense of the intimate, delicate and subtle interdependence of all organic structures and processes with one another" (295). Anyway, the irreducibility of higher-level causation to physical causation, that is: of *emergent causation* to causation *tout court*, turns out to be an explanatory issue.

7. An instrumentalist theory of mind?

Is Dewey's emergentism, then, at bottom only a form of "instrumentalism," as the latter is conceived—and generally rejected—by contemporary philosophers of mind? *Not* in the sense in which instrumentalism immediately implies anti-realism. There is, after all, in Dewey's account of mental causation a clear sense in which the widely scattered aspects of the world, organized into unities, *are really there*, "waiting" to be discovered and systematized by our theories. But since the "hard" facts of higher-level causation are made dependent, for their individuation, on our categories and explanatory strategies, we may still be inclined to call Dewey's approach instrumentalist. So be it! It seems to me, anyway, that it is a *defensible* form of instrumentalism. What is more to the point: it seems to me that it is a form of instrumentalism that can be put to work in the contemporary debate on the possibilities of nonreductive materialism.

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