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lection is of many a polite—"Ah, your *language* is truly sounding, but what does it mean?" We get it unwittingly and use it unconsciously, the whole sonant rote, but there is a possibility (I have believed myself to realize it now and then) of joyously discovering that we, too, are capable of discoursing in prose. Surely, it would be a fine thing if philosophy should, in the next decade, give such a tone to our letters as to lift our pleasant estheticisms into the realm of literature and cause literature to body forth an American imagination. And would it not be, also, the very bulwarking of our country's truer life?

H. B. ALEXANDER.

THE UNIVERSITY OF NEBRASKA.

PRAGMATISM AS INTERACTIONISM

II

IN the former part of this article it has been pointed out that the most characteristic and most emphasized thesis of pragmatism, in the more recent utterances of its advocates, is the doctrine of the potency of "intelligence" to bring about modifications in the physical world; that Professor Dewey, Professor Bode, and others, are consequently in avowed and vigorous opposition to parallelism or epiphenomenalism in all its forms and disguises, and to the kindred assumption of the universal reducibility of bodily processes to mechanical laws; but that, at the same time, most pragmatists are altogether averse from any sort of psychophysical dualism. They seek to combine in a single doctrine the assertion of the efficacy of thought with the denial of the existence of any distinctively "psychical" or "subjective" elements in experience. We are now to inquire whether both these views can consistently be held by the same philosopher, without a falsification of the facts of those "concrete practical situations" which it is peculiarly the concern of the pragmatist to observe and describe truly.

It is to be noted at once that such a combination satisfies but poorly the pragmatist's antipathy to dualism as such, and hardly accords with his attachment to the principle of "biological continuity." A dualism of types of causal process, of laws of action, means just as deep a "cleavage in the nature of things" as a dualism of modes of existence; to a pragmatist, indeed, it should seem much the more significant cleavage of the two. If the appearance of "intelligence" upon the cosmic scene means, as Professor Bode says, the "advent of a new category"; if bodies, under the influence of in-

telligence, move in ways in which the same masses of matter would not move under the action of any forces known to physics or chemistry—then it follows that an irreducible discontinuity is to be found in the system of natural laws. I make this point merely because of its bearing upon the presumption which seems to be one of the principal grounds for the pragmatists' denial of the existence of anything "mental" or "subjective." We have already seen Professor Dewey urging the methodological presumption of "continuity" as a reason why the hypothesis that "consciousness is something outside the real object, is something different in kind," should, at the least, be not accepted until "after every other way of dealing with the facts has been exhausted";¹⁹ and in practise this presumption is treated by him as decisive. He repeatedly assails the dualistic epistemology on the ground that it "makes consciousness supernatural in the literal sense of the word" and implies that "the organ or instrument of knowledge is not a natural object"; what this apparently means—unless "supernatural" is used merely as an abusive epithet—is that "ideas" and "states of mind" are conceived by the dualist as a "peculiar kind of existence" essentially different from "things," *i.e.*, from the physical things with which natural science is conversant. But since the pragmatist himself believes, not, indeed, in a peculiar kind of existence, but in a peculiar kind of causal agent or mode of action, his "creative intelligence" is, in the same sense of the adjective, quite as "supernatural" as the dualistic epistemologist's "representative ideas." It may, in fact, be said to be *more* "supernatural." For after all, mere "representation" is a function which, though external to the system dealt with by the natural sciences, does not disturb the system, or limit the range of applicability of the laws of those sciences. But the control of "things" by a unique, non-mechanistic process of "intelligence"—nay, the creation of new content of reality, the introduction into the physical order of genuine novelties, by man's reflection and contrivance—this is not a mere external addition to, but an interjection of a foreign element into, the system of nature known to physical science. Indeed, Professor Bode, after setting forth in pragmatistic fashion the process of selective and purposive control of bodily behavior, refers to it as a "miracle."²⁰ Mr. Santayana's parallelistic dualism, as it seems to me, deviates less conspicuously from the presumption of "continuity," since it refuses "to attribute to thought a power, by virtue of its intent, to bring about what it calls for," while admitting the distinctive existence of

¹⁹ *C. I.*, p. 35.

²⁰ *C. I.*, p. 240.

thought as a physically ineffectual accompaniment of bodily processes.

These considerations, however, are merely preliminary; they serve to show only that the pragmatist is not steadfast in his loyalty to that *realwissenschaftlich* point of view in the name of which he appears to condemn psychophysical dualism. The presumption which he invokes as virtually decisive at one point, he quietly disregards at another. Perhaps it may turn out that it is a presumption contrary to fact in both cases; and, indeed, that it can not be rejected at the one point without being rejected at the other also.

From the question of antecedent methodological presumptions, then, we turn to the question of fact. We must directly scrutinize the process of "intelligence" or practical reflection, to note what elements are observably contained in it, and what other facts must necessarily be presupposed, if it is to be credited, as it is credited by the pragmatist, with causal efficacy in the world of "things."

An answer to this question has been attempted by Professor Bode in the essay already cited; and it will serve our purpose to consider his answer first. He seeks to determine the differentia of what he calls (though apparently without any "subjectivistic" implications) "conscious behavior." That, at any rate in man, responses to stimuli occur which are not "purely mechanical reactions" he finds to be a plain matter of fact. These specifically "conscious" responses have three distinguishing peculiarities: (a) They are "processes of organization not determined by a mechanism previously provided"; they have "a peculiar flexibility, so as to meet the demands of a new situation. . . . The response to the situation is tentative or experimental in character." In this respect these reactions are essentially unlike reflex arcs. "The reflex arc is already set up and ready for use by the time the act appears upon the scene. In the case of conscious activity we find a very different state of affairs. The arc is not first constructed and then used, but is constructed as the act proceeds; and this progressive organization is in the end what is meant by conscious behavior."²¹ (b) But this is not the whole story; for this "progressive organization" has, furthermore, a "selective or teleological character." The selection "is determined by reference to the task in hand, which is to restore a certain harmony of response. Accordingly the response is selected which gives promise of forwarding the business of the moment."²² (c) This selective control, furthermore, operates in a unique and highly significant way. "It consists in giving direction to behavior

²¹ *C. I.*, p. 238.

²² *C. I.*, p. 240.

with reference to results that are still in the future." Thus, in the case of an organism capable of conscious behavior, "a perceived object is a stimulus which controls or directs the organism *by results which have not yet occurred* . . . [e.g.] a 'sharp' razor, as perceived, does not actually cut just now, but it bodies forth the quality 'will cut,' i.e., the perceived attribute derives its character from what the object will, or may, do at a future time. . . . The uniqueness of such a stimulus lies in the fact that *a contingent result somehow becomes operative as a present fact; the future is transformed into the present, so as to become effective in the guidance of behavior.*"²³ Thus, finally, "*to be conscious is to have a future possible result of present behavior embodied as a present existence functioning as a stimulus to further behavior.*" It is this "conversion of future results or consequences into present stimuli" which constitutes the "miracle of consciousness."

This description is given by Professor Bode not merely as an account of "conscious" behavior, but also as an account of the nature of "intelligence." To "act intelligently" is to act "with reference to future results which are sufficiently embodied in present experience to secure appropriate reactions." But for certain qualifying and explanatory clauses which Professor Bode adds, we might very well accept this as an accurate and illuminating, if not complete, statement of the distinguishing peculiarities of intelligence in its practical aspect. But it has now to be noted that when Mr. Bode speaks of "acting with reference to future results," he apparently means what would ordinarily be called—and what, in fact, he himself calls—an *unconscious* reference to such results. He writes, for example: "A living body may respond to an actual cut by a knife on purely reflex principles, but to respond to a cut by anticipation, i.e., to behave with reference to a merely possible or future injury, is manifestly an exhibition of intelligence. *Not that there need be any conscious reference to the future as future in the act.*"²⁴

What this means, as I judge from certain other passages, is that any response is, in Professor Bode's sense, "controlled by a reference to future results," provided only that (a) the response does in fact (however little the organism be aware of the fact) serve to adapt the organism to meet some future situation in a more effective way; and (b) that this adaptive character of the present response is the effect of previous experience in a situation similar to the future one. In any given situation in which an organism may find itself, and to which an immediate, reflex response is in any way impeded or in-

²³ C. I., p. 242; italics mine.

²⁴ C. I., p. 242; italics mine.

hibited, there are present in the organism a variety of "nascent motor impulses." If one of these impulses has already, in one or more previous experiences of the same organism, been carried out, its "adaptive value" has thereby been already tested, at least to some degree. In so far as this previous experience influences the present response, we may say that the "future possible result" of that response "is embodied as a present existence functioning as a stimulus to further behavior." For the future result will, after all, be the same in kind as the past result which is one of the actual determinants of the present response.²⁵

When Professor Bode's analysis is construed in the light of these explanatory clauses, it becomes instructive chiefly by its omissions. It is a description of "intelligence" from which all that makes intelligence intelligent has been expressly excluded as non-essential. The terms used are as applicable to the behavior of a *paramecium* as to that of a man, to the activities of a trained flea as to those of an inventor, an engineer, an architect or a statesman. But, whatever be true of the *paramecia* or the fleas, we happen to know that, in the case of inventors and engineers, and even of statesmen, there is a "conscious reference to the future as future";²⁶ and such conscious reference is a part of the essential differentia of that class of acts commonly regarded as "exhibitions of intelligence." An intelligent act, in short, is an act controlled by a plan; and a plan of

²⁵ The passage in Bode's essay upon which I chiefly base this interpretation of his notion of "unconscious reference to the future," is the following: "The uniqueness of the conscious stimulus lies in the fact that the adaptive value of these nascent motor impulses becomes operative as the determining principle in the organization of the response. The response, for example, to 'sharp' or 'will cut' is reminiscent of an earlier reaction in which the organism engaged in certain defensive movements as the result of actual injury. That is, the response to 'sharp' is a nascent or incipient form of a response which at the time of its first occurrence was the expression of a maladaptation. . . . The character of the stimulus is determined by the adaptive value which the incipient activity would have if it were carried out." (*C. I.*, pp. 243-244.) I assume that the "reminiscence" in question need, for Professor Bode, be no more conscious than the future reference; and that, therefore, the "intelligent action" which he is describing would be sufficiently exemplified by any case of the formation of adaptive habits of response through the simplest process of trial and error, without either actual recall of past experiences or actual predelineation of future situations.

²⁶ I note in passing the odd circumstance that Professor Bode, even while offering a definition of "consciousness," refers to something else, also called "consciousness," which is excluded from that definition. In substance his formula reduces to the following: "Conscious behavior is behavior determined by a reference to future consequences, but not necessarily by a conscious reference." This, I suspect, is more than an accidental verbal slip; the inconsistent use of terms arises naturally from an error of fact in the analysis.

action obviously relates, not merely in fact but by its explicit intent, to the not-yet-existent. It also, in so far as it is the fruit of reflection, involves an explicit reference to the no-longer-existent. "Imaginative recovery of the by-gone," Professor Dewey somewhere remarks, "is indispensable to successful invasion of the future." That, of course, overstates the case, as the felicities of instinct and of acquired adaptive habits may remind us. But it is manifestly true that imaginative recovery of the past is indispensable to *intelligent* invasion of the future. Thus the familiar and characteristic form of human "response to situations" which is known as planning consists essentially in two paradoxical-sounding processes—in the two-fold "present-ation" of the not-present. The "function of effective reflection" is performed only where there is both a partial reconstruction of the past and a partial pre-construction of the future. The principal constituents of the planning-experience are things which, though in a sense present in that experience, are—to use a happy phrase of Professor Dewey's—"present-as-absent." For, as Professor Dewey justly adds, "we must not balk at a purely verbal difficulty. It suggests a verbal inconsistency to speak of a thing present-as-absent. But all ideal contents, all aims (that is, things aimed at), are present in just such fashion. Things can be presented as absent, just as they can be presented as hard or soft, black or white."²⁷ Thus Professor Bode would have truly described the process of intelligence if he had taken his first formulation of it quite literally, without the subsequent qualifications by which he renders it false to the observable fact. Reflection about a plan of action is, in no figurative sense, "a conversion of possible future results or consequences into present existences."

But if the meaning of this fact be considered, it should become evident that the pragmatists' attempt to avoid psychophysical dualism, while at the same time affirming the efficacy of "intelligence," has broken down. For in what sense is the future "converted into a present existence" at the moment of practical reflection? Not, obviously, in a physical sense; the "things aimed at" are not at that moment included among the contents of the physical system. If physical science were able to take a complete inventory of that system at the moment in question, it would find therein no "future existences" and no "results which have not yet occurred." There would be such and such a number of particles, acted upon by such and such forces, disposed in certain spatial groupings, and

²⁷ *Influence of Darwin, etc.*, p. 103. I have discussed the epistemological bearings of this pregnant remark of Dewey's at some length in my contribution to *Essays in Critical Realism*.

moving in various determinate directions. None of the particles, nor of the forces, nor of the movements (*pace*, with respect to the last, the theory of relativity) would bear either to-morrow's or yesterday's date. Doubtless, "yesterday this day's madness did *prepare*"; but it was not, either in existence, or in kind or "essence," that which it prepared. The category of "presence-as-absent" is foreign to the vocabulary of physical description. The material universe, at a given time, consists of things that *are* at that time, at particular places in space—not of things that have been or are possibly going to be, and are at no particular place in space. Literally "em-bodied" in present experience, "contingent future results" can not be said to be, without completely falsifying the concept of body, as held either by common-sense or by natural science.

On the other hand, it is, as we have already reminded ourselves, of the essence of a plan that it shall be made up largely of elements that do not now exist. Yet there is no paradox in this, nor need we talk mystically of it, as if the thing were a "miracle." For the sense in which the elements of a plan of action are present is different from the sense in which they are not present—are past or future; and this distinction of senses has been perfectly familiar and easy to the entire human race with the exception (apparently) of some very primitive peoples and certain recent groups of philosophers. "Present" the future results literally and indubitably are, inasmuch as they are elements in the experience of the planner at the moment of planning, and are at that moment, as Professor Bode has said, functioning as stimuli to present behavior. "Present" the future results as obviously are not, in the sense that the anticipated or desired outcome is already a fact of that external order into which the planner intends to introduce it. A plan of physical action would not be a *plan* of action, if that which it contemplates existed, or were already going on, in the physical world; for a plan requires to be "realized." This does not mean that, before "realization," the plan has no reality. To realize, in the meaning which the term has when used in this connection by common sense, is to *physicalize*—to act upon matter in such a way that the situation or configuration of things which was formerly but a dream, a hope, a purpose, takes its place among the solid, stubborn, non-contingent, public facts of the sensible world. While not the conversion of the unreal into the real, this is the conversion of a single "essence" from one order of reality to another.

Thus it is only in consequence of an incomplete analysis of the nature of practical reflection and intelligent action that pragmatists have been able to avoid giving what Professor Bode calls a "subjec-

tivistic or psychical interpretation" to those functions. They have failed to see that a plan of action *must* be a "psychic existence," in a perfectly definite and intelligible sense. There is, be it noted, no mystery about the meaning of the terms "mental," "psychic," "subjective." A thing is a "mental entity" if it is actually given at any moment in any context of experience, but can not be regarded as forming a part, at the same moment, of the complex of masses and forces, in a single, "public" space, which constitutes the world of physical science. But if plans of action are, or include, in this sense, mental elements, and are also—as the pragmatists assert—genuine causes or determinants of physical events, it follows that, rightly construed and consistently thought through, pragmatism means interactionism.²⁸

A plan of action, however, as we are rightly reminded by pragmatists, is not, as some of the foregoing expressions might seem to imply, a static thing. We may, for purposes of analysis, take a temporal cross-section of the planning-experience, may view it as—what, at any given moment, it is—a complex of content made up of such and such elements. But as a whole it is essentially a process, a sequence of complexes constantly developing one into another. And the process is, as Professor Bode has observed, one of "progressive organization" having a "selective or teleological character." The plan itself and the measures for its realization are gradually built up, through the bringing together of such thought-material as is recognized as having relevancy "to the business in hand," and through the deliberate selection of some possible and nascent responses and the neglect or conscious repression of others. What are the "causes" which control—or which, at all events, seem to the subject to control—this process of selection and organization? In other words, what are the constant correlations of factors discoverable in the process, and what is the nature of the factors correlated? By virtue of what property or relation does one possible bit of content get attended to, taken account of, perhaps taken up into the organized plan itself, while other bits are ignored or eventually excluded? For an answer we have but to recall examples of the way in which "creative intelligence" actually operates.

An architect, for example, is called upon to design a group of college buildings for a given site. Considering the uses to which the buildings are to be put, the character of the site, *etc.*, he decides that

²⁸ Neo-realists will, no doubt, at this point take refuge in the grateful obscurity of the conception of "neutral entities." As I have dealt elsewhere with that conception I shall not consider it here. It is not, at any rate—so far as I know—usually accepted by pragmatists.

the style of architecture to be adopted must not be "monumental," must be "flexible" and capable of an extensive variety and irregularity in size, elevations and ground-plans, and must permit the use of a certain local stone. With these criteria in mind he reviews the historic styles and, rejecting all of those now in fashion, decides upon the rustic Renaissance architecture of northern Italy. In such a typical process of planning can the determinants of the sequences be properly said to be exclusively either "physical" things or "physical" forces? Not if the adjective is used with definite meaning, and if, at the same time, we avoid confusing the attributes of one moment or situation with earlier or later ones. The "cause" of the behavior of a material system at a given moment is stated by physical science ultimately in terms of the masses, positions, velocities, electrical charges, of that system relatively to other existing masses or particles (and of its chemical composition, in so far as this is not yet reducible to the former terms), at the same moment or the immediately antecedent moment. In no such terms can planning be described. The controlling factors in the whole process by which the architect first defined his criteria, then by means of them selected his style, and finally worked out his detailed designs, were presentations of physically non-existent things, of future possible results and of past experiences taken as throwing light upon future results. With these purely ideal, and at first highly general and abstract, models, every potential element of the final plan was compared; and its adoption or non-adoption depended upon the nature of the logical relations between its properties and those of the imagined, the not-yet-realized, consummation. To tell the architect that the true reason why his process of selection and organization took the course it did is adequately stated by giving, for each of a series of moments, the distances and mechanical relations between the molecules composing his body and other coexistent masses of matter—to tell him this is to talk what to him, at least, must appear offensive nonsense. However little or however great the efficacy of a plan as a force in the physical world, it is the inner developing logic of his purpose, not the laws of mechanics, that inevitably seems to the planner to determine what the plan itself shall include and how its elements shall be combined with one other. In the recognition of the relation of means to the end to be realized, and in the complex processes of logical analysis and inference which this may involve, the reflective agent is carried along from one momentary phase of experience to another by what may analogically be called "forces"; but, in so far, at least, as the process is what it purports to be, the nature of these forces is falsified as soon as the attempt is made to formulate

them as functions of the space-relations of molecules or electrons. It is true that, as psychoanalysis is showing us, the agent is frequently mistaken as to the real determinants of his choices and even of the results of his "reasoning." But not even psychoanalysts, I take it, would generalize this conclusion so far as to make all planning and all reasoning a mere expression of unconscious impulses, which explicit intents and the recognition of facts and logical relations never either modify nor supplement. So sweeping a generalization would, of course, render all reasoned conclusions meaningless, including those of the psychoanalyst.

Professor Bode, at any rate—as we have already seen—expressly accepts the assumption of the distinctiveness of the determinants controlling the sequences which constitute "intelligence." He emphatically repudiates the notion that those sequences "are nothing more than an interesting indication of the way in which the neural machinery is operating" and that "the progress of an argument is in no way controlled or directed by the end in view, or by considerations of logical coherence, but by the impact of causation." But this again—when conjoined with the pragmatist's affirmation of the physical efficacy of intelligence—must be recognized to mean psychophysical interactionism; since "ends in view" are, before their realization, "mental" or ideal, *i.e.*, non-physical, things, and since "considerations of logical coherence" are not among the forces, or determinants of the relative motion of bodies, of which physics and chemistry take account in their formulas. The view to which Professor Bode commits himself, and which seems to be the typical pragmatic view, either excludes the idea of causation altogether from purposive action, or else it must finally "interpolate mental links into the causal chain."

Thus, whether we consider the "creative intelligence" of pragmatism analytically or dynamically, as a state or as a sequence controlled by certain distinguishable causes, the interactionist implications of the conception are evident. Fundamentally—to sum up—the doctrine of instrumentalism, in the present stage of its development, is a revolt against that strange nineteenth-century aberration, epiphenomenalism—a revolt, however, which can not maintain itself without an alliance with an honestly dualistic conception of the psychophysical relation.²⁹ Pragmatism insists that, whatever philosophical propositions be true, one class of propositions must certainly be false—all those, namely, which either assert or imply that human intelligence has no part, or no distinctive part, in the control of physical events and bodily movements, in the modification of en-

²⁹ This does not necessarily imply an ultimately dualistic metaphysics.

vironment, or in the actual determination, from moment to moment, of any of the content of reality. That man is a real agent—and that the distinctive quality of his agency consists in the part played therein by the imaginative recovery and analysis of a physically non-existent past and the imaginative prevision of a physically non-existent future—these are the first articles of any consistently pragmatic creed. Such a creed is simply a return to sanity; for these two theses are the common and constant presuppositions of the entire business of life. Never, surely, did a sillier or more self-stultifying idea enter the human mind, than the idea that thinking as such—that is to say, remembering, planning, reasoning, forecasting—is a vast irrelevancy, having no part in the causation of man's behavior or in the shaping of his fortunes—a mysterious redundancy in a cosmos which would follow precisely the same course without it. Nobody at a moment of reflective action, it may be suspected, ever believed this to be true; and even the composing and publishing of arguments for parallelism is a kind of reflective action.

If, however, this account of the true implications and chief significance of contemporary pragmatism is correct, that philosophy has before it certain unfulfilled tasks—the task of a more serious and thorough examination of the psychophysical problem than it has yet given us, and of the formulation of a philosophy of nature and of the evolutionary process which shall be in keeping with the two fundamental pragmatic principles.

ARTHUR O. LOVEJOY.

JOHNS HOPKINS UNIVERSITY.

THE NATURE OF ESTHETIC OBJECTIVITY

THERE has been much debate as to whether esthetic values are objective and absolute or subjective and relative. The former view would give a rigid guide to taste and criticism. It is, however, subject to two difficulties: (*a*) theorists can not agree as to what the objective norms are; (*b*) when they try to account for the variations of actual taste among individuals and among nations, they are forced to admit that judgments of taste which seem, to those who make them, objective and absolute are in fact modified by subjective factors; indeed the alleged objective factor is so overlaid with convention, prejudice, and accident that it ceases to be empirically traceable.

Conversely the subjective and relative theory accounts for the variety of actual taste, but it renders unintelligible our attempts to