and endeavors to fulfill his duty; there is finally the humorist who, being sadly affected by the contrast of finite and infinite, is forced to look upon life as more or less of a joke. All this reminds one of James’s “types of thinking” from the man who “carves out” order to him who considers the universe a vast “grab-bag.” Between the American and the Dane there is, then, final agreement in respect to the doctrine of discontinuity, the old idealistic continuity being supplanted by the view that both the psychic and the cosmic life proceed by leaps, Natura per saltum.

References


General Problems; Mind and Body

By Walter T. Marvin

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The prominent subjects in the current discussion of the foundations of psychology remain the nature of the mental and the formulation and limitation of the psychologist’s problem. The most important contribution to these subjects has been made by Holt (11). His book endeavors to establish two chief conclusions. First, the mental is not a simple stuff which defies analysis and so definition in terms of the non-mental. On the contrary the mental is a complex which can be analyzed; and if so, it must reveal as its components, entities that are relatively simpler and therefore non-mental. Second, cerebral physiology must be freed once and for all “from its present mysterious and retarding association with metaphysics.” Cerebral physiology does not raise any problem fundamentally different from those raised by other departments of neural physiology. Yet the traditional belief coming to us through Descartes from the middle ages has so possessed our minds that even our foremost physiologists are “rendered circumspect, tenta-
tive, and, as it were despairing because they cannot hope that their mere physiological methods will avail aught in the cerebrum—the dark throne of mentality." To return to the first conclusion: Modern logical analysis is forcing us to outgrow that ancient and crude conception of the physical world which pictures it as a cloud of minute Democritean atoms or tennis balls, and is giving us in its place systems of purely mathematical entities, definable in mathematical terms and explicable through mathematical formulæ. Instead of the physical being ultimate, analysis brings us beyond it to that which is logically simpler. Indeed it is this logically simple which constitutes our largest and all inclusive universe of discourse. It is a realm of pure being, for all that is required of any entity in order to be a member of it, is that the entity should be, that is, should be a possible object of discourse. It is here in this universe of discourse that logic forces us to begin the work of definition. Starting here we can define the mathematical, the physical and, as Holt endeavors to show, the mental. The mental is a certain selection out of, or cross section of, this realm of pure being, distinguished from other cross sections (for example, the physical) by being that to which the nervous system specifically responds. As members of this larger world of discourse the very same entities can be both physical and mental, and can be within the field of two or more minds. To return to Holt's second conclusion: The nervous system is simply an organ of response. This is all that the definition of the mental demands of it in the name of psychology. Santayana (14) finds Holt's metaphysics too Platonic; "it leaves us in the air." Consciousness is not merely a selection of objects, for attention bestows on the conscious field a "sort of intensity or actuality." Is not "what the nervous system selects thereby suffused with a specious unity, emphasis, or luminosity which it did not have before?"

Less general than the problem of Holt's book is the issue raised by the behaviorist. This issue has been discussed by several writers during the past year. Watson (17) in his recent book has repeated his defence of behaviorism.¹ Bode (2, 3) makes the point that if psychology is to be regarded as the science of behavior, "we are bound to reinterpret the category of behavior." We must distinguish between automatic and conscious acts. "Conscious response is a process of organizing or readjusting different simultaneous responses which interfere with one another." It is a

response "which seeks and maintains the stimulus necessary for further response." Its characteristic trait is "that stimulus and response develop concomitantly." Adopting this distinction between automatic and conscious response we may accept behaviorism. Crile (7) argues that granted the mechanistic theory of life psychology must be redefined. It is the study of how in the course of man's phylogeny and ontogeny his responses have become determined by environmental stimuli. The evidence afforded by the reflex arcs in man shows clearly that environment is indeed the author of his mental nature. Frost (9, 10) argues that "if no process can experience itself, be within itself both subject and object" there exist no grounds for labelling any process "psychic." Neural arcs never respond to themselves but to stimuli from without the body or to neural impulses passed on from lower arcs. Psychology gains nothing by speaking either of an elementary psychic process or even of a knowing function, for it can express in a better way "the reactions or awarenesses" on the part of higher neural processes of lower neural processes. Against the extreme behaviorism of Watson and others Marshall (12) protests that though there is without question and of right a science of behavior, still there are existences of another order than the physical order, the mental order, and "from time immemorial it has seemed worth while to some of the most powerful thinkers among men to investigate the nature of, and the relations between, these existences in the mental order." Dewey (8) discusses the relation of psychology and philosophy and expresses a certain hope and a certain fear regarding the behaviorist movement. Our present psychology is not founded solely upon matter of fact, for it has inherited from the Middle Ages through Descartes and Locke a general theory. It is now outgrowing this theory and already many of its developments "decline to lend themselves to the traditional rubrics." Given a generation of teachers and students trained in the behaviorist point of view, the change from the introspectionist psychology will profoundly change the spirit and tenor of philosophical discussion, chiefly by relegating some "problems to the attic in which are kept the relics of former intellectual bad taste." But behavior must not be limited to the activities of the nervous system, for behavior "would seem to be as wide as the doings and sufferings of a human being." The distinction between routine and whimsical and intelligent—or aimful—behavior would seem to describe a genuine distinction in ways of behaving. Again we should not
ignore the social qualities of behavior. In short, behaviorism must break loose from its prepossession that behavior is solely something going on within an organism and take behavior as it is found.

The nature and field of psychological science are discussed also in articles by Creighton, Natorp, and Sauerbeck. Creighton (6) protests that the primary psychological interest is not that which is sought in physiological psychology. Rather it is that which "seeks to understand individuals, our own mind and that of others; and to understand individuals is to know them from the inside as centers of experience," for the person is not a series of phenomena but an individual, a self. We must study the mind not by the analytical and abstract methods of science but through an insight into the concrete form of the mind, the living mind as it is presupposed in most of our concrete dealing with our fellow men, and in our explanation of history. "The life of mind is a realm of judgment, value and appreciation, a life of activity and interpretation." Closely related to this conception of psychology is that of Natorp (13), who would carry psychology way beyond its limited field as one of the special sciences and offer it as its province the whole realm of life and life's interests. Sauerbeck (15) finds, over and above the differences in the objects studied by the several existential sciences, differences in method. Psychology stands out from the other sciences by having in addition to their methods one peculiar to itself, namely, the teleological method. This method is indeed in many respects an imperfect one and becomes scientific only in combination with the other methods, which are respectively, the methods of exact science, the empirical or descriptive method, and the historical or evolutionary method.

The mind-body problem is the subject of the presidential address by Warren (16). Though science is not yet ready to adopt a metaphysics of mind and matter, "some working hypothesis of the psychoneural relation is needed." "The double aspect view (monodualism) seems to fit the conditions best." For this view Warren finds an interesting and apposite analogy in the surface-mass relation of a material body. "Mass and surface change conjointly; they are inseparably bound together; they are two radically distinct aspects of the same thing." If the mental and the physical are two aspects of the same thing then it follows that the uniformity found in the physical obtains equally in the mental sphere. Human volition and human reasoning and teleology can be explained quite in accord with the mechanistic processes of
nature. The double-aspect theory has also an important bearing upon the issue raised by behaviorism. "Psychology should embrace both the inner and the outer aspects of experience." The relations between the individual and his environment can be studied objectively as behavior, or introspectively as consciousness. On the one hand, the study of behavior checks up the data of introspection and is essential to the understanding of genesis; but on the other hand, introspection "has disclosed uniformities among mental events," and the conscious life, that introspection reveals, requires scientific analysis and study as much as the objective world revealed by consciousness.

Further studies of the mind-body relation are those of Bleuler, Durr, and Carr. Bleuler (1) concludes that the laws of the central nervous system and of the mental stream are identical and so that there is no fundamental difference between psychical and physical causation. The differences usually noted are not differences between psychical and physical causation but those between simple and complex and between direct and releasing causation. The releasing and blocking of reaction in the mental field is to be conceived of as a process analogous to the switching of an electrical current or rather as the lessening or increasing of resistance to the passage of the current at a switching point. A new unaltered edition of Busse's book (4) has appeared with an appendix by Dürr in which he gives an elaborate analysis of the mind-body problem and expresses his decision in favor of interaction as this doctrine is formulated in his analysis. Finally Carr (5) gives two reasons why the mind cannot be produced by the brain. "One is that it is impossible to explain anything as an effect unless we can regard it as strictly commensurate with the cause, and mind is not commensurate with cerebral process. And the second is that the consciousness which arises in connection with cerebral process is not consciousness of cerebral process but of something which is altogether independent of cerebral process, something existing in a different space" and time.

References

CONSCIOUSNESS AND THE UNCONSCIOUS

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More and more dissatisfaction is becoming evident with the traditional attitudes toward consciousness. Watson (18) restates in the first chapter of his book the position taken in his papers of last year, and presents an imposing array of facts which the behavior method has yielded in the field of animal psychology. Frost (6, 7) pleads for a use of the term "awareness" with a physiological, rather than with its usual mental, connotation. When, for example, the pupillary reflex takes place, we may consider that the eye-mechanism is aware of the stimulus. When the activity of such lower arcs leads to the stimulation of higher arcs, the latter may be said to become aware of the former. Such physiological processes are themselves "consciousness at the moment, completely described." There is no necessity of assuming an additional