THE NATURE OF MIND

I

THE PROBLEM OF MIND AND ITS HISTORICAL SETTING

MOST of us would defend to the last ditch the existence and worth of our own minds, but we easily become embarrassed if we are asked to say very much about the nature of that mind which we so hotly defend. And it is no answer to reply "never matter" for in physical terms it is doubtful if mind and matter are so opposed as we ordinarily believe, and in social terms, it is certain that nothing matters more than mind.

In raising the problem of the nature of mind we are plunged into a problem of the greatest difficulty and of the deepest importance. To be sure, many thinkers, like John B. Watson, have called mind a "passing concept"; nevertheless, the abolition of a name gives no solution, but merely forces old problems to appear under new labels and in different disguises. The term "mind" occupies too great a place in the history of human speculation to be lightly dismissed. It is more courageous to confront the problem boldly, and to inquire into what has been meant, and what should be meant, by the term mind. Although it is impossible to say all that should be said, the aim at least must be to suggest a precise

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1A series of three lectures delivered at the Rice Institute on January 6, 13, and 20, 1929, by Charles William Morris, Ph.D., Assistant Professor of Philosophy at the Rice Institute.
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answer to this problem. In the present lecture the historical aspects of the problem will be raised; in the second lecture three typical contemporary theories of mind will be considered; and in the final lecture the attempt will be made to defend a fourth type of theory and to develop some of its relevant implications.

I

The stream of contemporary reflective thought appears to have taken one dominant direction, that of assuming a critical attitude to thought itself, of subjecting the most fundamental concepts to a merciless dissection. If one has an ear for subtle music, there is to be heard behind the philosophical display the ever repeated note of an impatience with thought and words, as though thought and words somehow ensnared one and obstructed participation in the fascinating drama which is felt to lie on beyond. "I'm bored, brother, with human words—all our words. Bored! I've heard each one of them a thousand times surely," sighs a Gorki character in *The Lower Depths*, and in the "higher depths" of James and Bergson the lament is repeated: James "abandoning" logic to plunge into "the stream of life" whose "deeper features of reality are found only in perceptual experience"; Bergson wishing to "reabsorb intellect in intuition," for intuition leads "to the very inwardness of life" while intellect "goes all around life" without ever penetrating into life. Better to be afloat in a sea of chaotic purposelessness—so runs many a modern tale—than to be enmeshed in, or to see the world enmeshed in, a logical or verbal net.

The resulting opposition to rationalism actually depreciates the intellect in some cases, but in general the modern effort has been to put intellect back into its larger setting, without neglecting its importance within this setting. Accordingly, it has been widely recognized that a basic task
of critical philosophy, to use Broad’s term, is the clarification of the fundamental concepts of reflective discourse.

Such an inquiry into basic concepts constitutes one significant aspect of the remarkably critical spirit which is penetrating contemporary science. It has been increasingly realized that a great deal of nonsense can be covered by the magic word “science.” The boldness of scientific advance has gone hand in hand with a scrutiny of the basic concepts. This is as true of the behavioristic movement in psychology with its reaction against the uncritical use of such terms as mind and consciousness, as it is of the physical theory of relativity with its attempt to use precisely such terms as simultaneity, length, and gravity. All such concepts have felt, and will continue to feel, the probing, burrowing knife-edge of analytical thought. Something is always likely to happen when a thinker asks himself what he means, in precise terms, by the fundamental concepts he employs.

In this analysis of concepts, the concept of mind occupies a peculiarly important place. Much, in fact, may be said in support of the claim that the problem of mind is the central problem of contemporary philosophy.

In the first place, the solution of the meaning of meaning—and if meaning is not mental, nothing is—is basic to the problem of how to determine any specific meaning. If there is to be a philosophy of science, the problem of the place of mind in scientific procedure must be determined. And since the topic of mind touches upon the work of the psychologist, biologist, anthropologist, and sociologist, the problem allows of that type of synthetic activity which certain philosophers have always regarded as one aspect of desirable philosophical activity. Philosophy and science are again drawing much closer together, and the topic of mind furnishes a fruitful point of cooperation.
Within philosophy itself, the central importance of an adequate theory of mind is much more obvious. The common classification of philosophers into realists and idealists centers around the importance attributed to mind. For the realist, mind is at best one aspect or portion of a larger non-mental universe which is not dependent upon mind for either its nature or existence; for the idealist mind is given a much greater metaphysical significance, the universe being conceived either as a mind or collection of minds, or as dependent upon mind both for its nature and existence. Mind occupies a central place in the problem of knowledge, which is usually stated as involving the relation of the mind or knower to the reality known. When so stated, it is clear that the form of the inquiry and its termination is largely dependent upon whatever attitude the inquirer takes to mind. In this sense, the problem of mind underlies the whole epistemological quest. Although the connection is not so intimate, the problem of mind bears upon the topics of logic and the philosophy of mathematics. If logic is to be the study of the entire reflective process, its ultimate ground must lie in a theory of mind, and its farthest reach must include the mathematical type of reflection.

Finally, in addition to the relation of the problem of mind to the problems of science, and to the basic problems of philosophy, there is the relation of mind to our individual and social life. We are still seeking for the essence of that rationality which Aristotle took to be the essence of man. In this psychozoic age, when from every quarter of the intellectual realm we are made to realize the supreme importance of reflective intelligence for morality, for education, and for internationalism, it would be superfluous to elaborate the advantages which a clear understanding of this priceless tool would afford.
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The extended ramifications and implications of the topic of mind provide the only set of valid criteria for an adequate theory of mind. Any term can, of course, be used in any way the user wishes, and for special purposes of psychology and biology theories may be adequate which are not adequate in the domains of logic and metaphysics. A satisfactory theory of mind must be comprehensive in its scope and fertile in its implications. The following criteria may be proposed: the theory of mind must be neither so general nor so limited in character that it fails to clarify the philosophical discussions of mind; it must be in harmony with whatever material the various psychological points of view can offer; it must harmonize with the general theory of the development of animal intelligence; it must be applicable to the study of the mind of primitive man; it must throw light upon the relation of logic and mathematics to mental phenomena; and finally, it must not be what Broad calls a "silly theory," that is a theory which one hotly defends before his colleagues but would hesitate to mention to one of his friends of good common sense. And if these requirements form a staggering array, it can only be said that nothing less is acceptable. So much, then, for the standards which shall guide us in our quest. For the present, it will be well to survey briefly and in general outlines the historical development which the philosophy of mind has undergone.

II

If a large generalization is wanted, it can be said, in Hegelian fashion, that there have been three "moments" in the history of speculation concerning mind: a period in which mind and matter were only vaguely conceived and vaguely differentiated; a period in which mind and matter were sharply differentiated and opposed; a period, lasting
up to the present, in which the effort has been to restore again the intimate connection of mind and matter by obtaining a new concept of nature. Although these periods overlap, and although traces of the earliest speculation continue to the present day and suggestions of the most recent theories can be found in the earliest period of speculation, it is roughly true that the history of thought about mind reveals a passage from the first, through the second, to the third of the above positions. For the remainder of this lecture we will trace the above development historically, reserving until later the critical analysis of the three main types of theory of mind which the historical process has produced.

As is to be expected, early man has no sharp separation of the life of mind from the rest of the world in which he dwells. Man only becomes conscious of himself and his reflective gropings as the result of a long historical development, in which by continual struggle he is forced to pay attention to himself and to the tool upon which his knowledge depends. Intelligence is normally directed outward; the science of man is always the last science to appear. Long before he knows himself man has made friends with the stars. The attitude of primitive man is therefore an objective attitude which allows of no opposition of mind and nature, of a private subjective life of consciousness and an outward objective world of corporeal events. For him there can be no question as to how mind and matter can interact, or how mind can know a world that is not mind. Similarly, at the beginning of human thought, there is no sharp distinction of a spiritual soul and a physical body. The "after-world" of early man is a world patterned after the lines of the terrestrial world; the future life is a glorified earth life, a continuation and not another kind of life. Death as conceived by the materialist is a concept of recent origin and
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utterly foreign to the early stages of thought. The situation that has been referred to is reflected in the poems of Homer, in the Rig Veda, and in the Old Testament of the Hebrews.

The same condition prevails among the early philosophers. Again there is no awareness of the problem of knowledge, no opposition of mind and the world. Mind, in fact, is not regarded as private and personal, but rather as the principle of motion and order of the world. The most distinctive aspect of the earliest theories of mind is precisely their lack of a psychological orientation. The early Logos or World-Reason is objective mind. Heraclitus' hints at a Reason which guides all things. Parmenides, in an often quoted statement that "it is the same thing that can be thought and that can be," hints vaguely at a doctrine that has been regarded as the prototype of the absolute idealisms. Empedocles' says of God, "He is only mind, sacred and ineffable mind, flashing through the whole universe with swift thoughts." The most interesting reference is perhaps the famous statement of Anaxagoras, which is of historical importance because of its effect upon Plato: "mind is infinite and self-ruled and is mixed with nothing... it is the thinnest of all things and the purest, and it possesses all knowledge and the greatest power." "Over all is mind the ruler. And over the whole revolving universe mind held sway, so that it caused it to revolve in the beginning." "Mind knows all things... regulated all things." "All mind... is alike." "Mind... is eternal." In this statement there is evident the emotional glorification of mind, the absence of a sharp distinction between mind and nature, and the use of mind as the ultimate principle of motion.

2Ibid., p. 46, Fragment 134.
3Ibid., pp. 51, 52, Fragment 12.
The existing fragments of early thought that can be called psychological show no satisfactory conception of the relation of thought to sense phenomena. Aristotle says that the atomists identified sense and reason. Windleband says of Empedocles that "the mixed substance which streams through the living body, the blood, was regarded as soul"; and that for the Sophists, "the entire psychical life consisted only in perception." At the opposite pole, there is evidence in Parmenides, and perhaps in Democritus, of a sharp separation of thought and sense which led almost to the denial of the latter. Psychologically, then, the early thinkers either failed to discriminate between mental processes and the phenomena of sense, or indiscriminately opposed each to the other.

There thus arises in the ancient world a double problem of mind: metaphysically, the problem of the relation of mind as a principle of movement to the objects moved; psychologically, the problem of the relation of mind to the phenomena of sense. It cannot be said that even Plato or Aristotle solves either of these problems. Instead, the two problems merely become more acute.

It is Plato's merit to have become aware of the difficulties which universals present. Thought is concerned with whiteness, with man, with justice, with circles, and yet perception reveals only white things, individual men, just acts, and things approximately circular. It is clear, then, that thought and sense are not identical. But the superstructure which Plato builds upon this undeniable fact only raises new difficulties. Plato is first of all a moralist. Believing that if reality is only an ever-changing process, knowledge is im-

1 De Anima, I, 404.
3 Ibid., p. 91.
possible, and that morality depends upon knowledge, Plato became intoxicated with the implications for morality which the existence of universals entails. Instead of entering into an analytical discussion of how universals are related to particular things, he passes at once to the conclusion that there must exist a realm of objects which are not transitory, and which make possible the existence of genuine knowledge. These objects of knowledge constitute the realm of Platonic Ideas. It is impossible to enter at this point into the maze of controversy concerning the Platonic doctrine of Ideas, but without a great deal of reinterpretation it cannot be denied that these Ideas as used by Plato are not in any way mental. They are objects of mind, not objects in mind. This is a striking example of the non-psychological character of the Platonic analysis. It is necessary to look elsewhere for Plato's treatment of mind.

As early as the sixth century before Christ, religious influences had led to the separation of the body from the soul, and had set up rites for the soul's purification. In the Phaedo Plato thinks in terms of this same separation of soul and body. The body is the prison house of the soul, which attains its release only at death. "The soul is only able to view existence through the bars of a prison, and not in her own nature." Accordingly the world of sense becomes a hindrance to knowledge and is sharply separated from thought: "thought is best when the mind is gathered into herself . . . when she has as little as possible to do with the body." When the soul reflects "she passes into the realm of purity, and eternity, and immortality, and unchangeableness."

1Burnet, Early Greek Philosophy, p. 86.
2Phaedo, 82.
3Ibid., 65.
4Ibid., 79.
Although the *Phaedo* exaggerates the dualistic aspect of Plato’s thought, it seems just to say that the rupture of thought and sense which is found in this dialogue is not remedied elsewhere. Even in the passages which some have regarded as anticipations of behaviorism, such as the statement that “the soul when thinking appears to me to be just talking—asking questions of herself and answering them, affirming and denying,”¹ the emphasis is not so much on the relation of thinking to language, as on thinking as an activity of the soul. This is more evident in the similar passage in the *Sophist* where it is suggested that “thought is the unuttered conversation of the soul with herself.”² Specifically, “the soul, besides other things, contains mind.”³ It is the immaterial soul that knows and thinks, and the sense world is at the best a stimulus to this activity.

Looked at metaphysically, the soul plays an important part in the cosmic process, as well as in the human body, as the principle of movement and order. It “holds and carries and gives life and motion to the entire nature of the body”;⁴ it “is among the first of bodies and before them all, and is the chief author of their changes and transpositions.”⁵ The soul as the “self-moved” is “the nature which controls heaven and earth, and the whole circumference.”⁶ So closely are soul and mind related that Plato does not hesitate to refer to the “mind that orders the universe,”⁷ and to call mind “the ruling power.”⁸ Plato’s conception of the creation

¹ *Theaetetus*, 189, 190.
² *Sophist*, 263.
³ *Laws*, 961.
⁴ *Cratylus*, 400.
⁵ *Laws*, 892.
⁶ Ibid., 897.
⁷ Ibid., 966.
⁸ *Timaeus*, 48.
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of the world is of a creation of order, not of stuff, a creation in accordance with the Ideas or Eternal Patterns, which remain, to the very end, objects and not contents of mind.¹

Plato's theory, in sum, does not solve, but rather accentuates the dualism of thought and sense, and brings into bold relief the doctrine of objective mind as the principle of motion and order in the universe.

If we are to characterize briefly Aristotle's relation to the Platonic treatment of mind, we may say that mind remains a principle of motion and order, but that this function is diminished by the larger place that is given to the Forms and Ideas as causal factors, and by an increased emphasis on the material or efficient cause. Aristotle also makes a valiant but ultimately unsuccessful attempt to bridge the Platonic gap between pure thought and sense. Although Aristotle's tendency is to oppose the substantive theory of mind in attempting to integrate mind and nature, the integration is never completed and mind remains a metaphysical outcast from nature. But these general statements must be given a more detailed and solid content.

For Aristotle, the world is an eternal process with no single goal, but always reaching specific consummations. The substratum which takes on specific forms he calls matter; specific things are what they are because of the Forms or Archetypes which guide the specific developmental processes. The Form of the oak tree guides the process of the developing acorn, and is the actuality which the acorn, as a potential oak tree, becomes. If to modern minds this analysis seems artificial, it must be remembered that Aristotle, lacking the causal knowledge which would be utilized today, is attempting to explain the fact of kinds or types in nature. What to us seems merely a verbal solution—the forms of

¹Ibid., 29, 32.
things are due to the Forms—seemed to Aristotle a valid explanation.

According to the more empirical phase of Aristotle’s thought, Form and matter are correlative, the Forms are in matter, and matter is informed. Although the Forms are regarded as causes, they are not the only causes, and in recognizing the efficient or material cause, Aristotle is already beginning to limit the sphere in which immaterial causes are invoked to explain material processes.

The Forms of living beings Aristotle calls soul. These Forms are somehow able to receive or grasp the Forms of other objects. This is the process of thought and mind, and in this explanation Aristotle is making mind merely one consummation of the process of nature. Mind has become the locus of Forms, “the Form of all Forms.” Further, there is no pure thought, no thought without content of nature present: “what we call reason in the soul . . . is, prior to the exercise of thought, no reality at all.” In fact, “the soul never thinks without the use of images.” So that while thinking differs from sense experience, which is the reception of the sensible patterns of things without their matter, thinking, the apprehension of Form, itself requires experiential content.

In this doctrine, whatever the difficulties in the concept of Form, it is clear that mind is, to use a contemporary phrase, an emergent aspect of the world process, and not a substance different in kind from this process. It would seem also, at first sight, that Aristotle has brought together the realm of the thought and the realm of experience. But both such con-

1Metaphysics, 1035b.
2De Anima, 429a, 432a. See also Ross’s Aristotle, p. 132.
3De Anima, 429a.
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Inclusions would be premature, since Aristotle himself admits that there are some Forms that are not embodied in matter, namely, God, the intelligences of the spheres, and a part of the human soul which Aristotle calls "active reason." It may be well to glance briefly at the conceptions of God and active reason.

Aristotle's conception of Deity is of interest in connection with the topic of mind, because he conceives of Deity both as an unmoved mover, and as pure thought thinking itself. In the conception of an unmoved mover (as contrasted with Plato's self-moved mover), that is, of a principle of motion which directs the heavenly spheres in virtue of the urge or love of these spheres for perfection, we encounter again the use of the category of soul or mind as an explanation of motion. And in saying that "in all things the good is in the highest degree a principle," Aristotle has practically deserted his doctrine of specific teleologies in favor of the Platonic doctrine of a single universal purpose determined and directed by mind. Further, in conceiving God as thought thinking itself, Aristotle has again on his hands a metaphysically pure thought not thinking anything external to itself, not in any way dependent upon nature, and not requiring for its activity the slightest vestige of an image.

In fact, even in Aristotle's psychology of the finite mind, the diremption of thought and experience is inevitable. Under the term passive reason, Aristotle lumps together the phenomena of sensation, imagination, memory, and recollection. The passive reason is treated empirically, and is the "matter" upon which the active reason works. The distinction between the passive and active reason is clearly akin

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1 *Metaphysics*, 1075a.
2 Hammond, *Aristotle's Psychology*, LXXXIV.
3 Ibid., LXXVIII: "Active reason stands to passive reason in the relation of form to matter."
to the distinction between conception and perception (when this ambiguous term is equivalent to immediate experience). Instead of tracing empirically the process by which concepts arise in the world of experience, Aristotle deserts here the empirical point of view, and in line with his metaphysical doctrines, regards the active reason as that aspect of the soul which is not intrinsically connected with matter, but which somehow enters the biological process through the instrumentality of the semen, and which is capable of existing apart as a sort of wax tablet which is as yet unwritten upon. The result is that the higher phases of mind have become a substance separable from nature, and the conceptual aspect of thought does not develop in an unbroken line from the non-conceptual aspects of experience.

Although Aristotle, like Plato, was justified in insisting that thought is not identical with the flux of experience, Aristotle as well as Plato turned to the opposite extreme of the Sophist in so emphasizing the uniqueness of thought that its relation to the experiential world remains an enigma. From its origin to its termination, the main course of Greek thought failed metaphysically to explain the relation of mind to nature, and failed psychologically to explain the relation of thought to experience. These two problems are handed down by the ancient thinkers to the thinkers of the modern world.

In passing to the modern period, it would be well to recall a commonly recognized fact that is of the greatest importance. With the increasing disintegration of the Greek culture, the individual was thrown back more and more upon his own resources, and became increasingly aware of himself.

1 De Generatione Animalium, 737a.
2 De Anima, 430a.
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as a being struggling for an adjustment which the existing social groups could no longer supply. The reconstructed society which Plato and Aristotle built in theory was not realized in actuality. While for Aristotle, if certain qualifications required by his metaphysics are omitted, the goal of man was to rise to his fullest stature within the community in which he participated, by the time of Plotinus the salvation on the earth had become transformed into a salvation from the earth. Even the Roman Stoics of the time of Christ, Seneca and Marcus Aurelius for example, frequently referred to the body as the prison house of the soul. Philosophy had become increasingly devoted to ethical and religious ends.

The net result of this situation is that it favored a subjective interpretation of the categories of mind and consciousness, and made these categories the center of attention. The substance view of mind that is found in Plato (at least the view that mind is an attribute of the soul-substance) came to dominate philosophical reflection.

The separation of mind from nature is augmented during the Middle Ages. Saint Augustine's use of the "I doubt, therefore I am" argument shows how natural it had become to feel that mental phenomena furnished the sole starting point for rigorous thought. For him, the intellect is alone infallible.¹ Truth can be obtained only by the pure intellect, since in experience man is not in direct contact with the external world.² Although Thomas Aquinas temporarily stems the tide of subjectivity by an analysis of mind and knowledge essentially Aristotelian, nominalism and subjectivism continue to gain the ascendancy, and in William of Occam there

¹J. Martin, Saint Augustin, p. 36.
²Ibid., pp. 265, 277. Cf. Augustine's De Diversis Quaestionibus, Quaest. IX: "non est igitur exspectando sinceritas veritatis a sensibus corporis."
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is encountered a situation strikingly similar to that of Descartes: mind is sharply separated from the processes of external nature, so that what is present is never the non-mental world itself. Knowledge is limited to the "signs" of things, and cannot deal with things directly. With a supernaturalistic metaphysics, and an emphasis upon the inner life, it had become increasingly easy to think of mind as differing in essence from the external world, and to regard the qualitative world of experience as mental and as "in the mind."

Peculiarly enough, this very tendency seemed at first to work into the hands of science. Mr. G. H. Mead has in fact said that the Christian soul was the contribution of religion to the embryonic movement of science. Partly due to Platonic influences (such as the geometrical doctrines of the *Timaeus*), partly due to advances within mathematics itself, and partly due to the lack of such instruments as the telescope and the microscope with their later enormous empirical influence, the early science of the modern world was given a predominantly mathematical and quantitative cast. The possession of a tool focuses attention upon objects upon which the tool can be used. To the young boy with a hammer the world is canalized into objects which can be hammered; to the scientist in the youth of modern science the world becomes a world of objects susceptible to mathematical treatment. There are, however, in the experienced world many qualities not susceptible to such mathematical treatment—the play of colors, the surge of emotions, the musical structure of sounds. So the richly developed Christian soul, the vehicle of mind, became the logical harbor of refuge for the homeless aspects of reality which the mathematically conceived world refused to harbor. Nature as a vast mechanico-mathematical system was closed to mind. And

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mind so conceived had to include the entire realm of immediate experience; all that is present, that is given, had to be regarded as mental and put in the mind. In this way the subjectivistic tendency fostered by the religious tradition of the Middle Ages became complementary to the demands of a growing science, a situation of extreme interest and of enormous significance for the comprehension of the course of Western thought.

The result is clearly outlined in Galileo's contrast of the realm of primary qualities with the realm of secondary qualities: the former being the objects of knowledge, quantitative, objective, absolute, and mathematical; the latter being the realm of opinion, qualitative, subjective, relative, and sensible. If Descartes really found nothing of significance in Galileo's works, as he claimed, that in itself is but an indication of the fundamental nature of the view in question, for Descartes only amplifies the situation as it had appeared in his contemporary. Such great underlying philosophical structures are representative of whole cultural movements and are not merely personal idiosyncrasies of individual thinkers.

Descartes in a famous sentence says, "I was especially delighted with mathematics . . . I was astonished that foundations, so strong and solid, should have had no loftier superstructure raised on them." With his conception of a "universal Mathematics" Descartes hoped to raise this superstructure. He felt that all things are "mutually related in the same fashion" as the objects of geometry. The ex-

1E. A. Burtt, The Metaphysical Foundations of Modern Physical Science, p. 73.
2Mahaffy, Descartes, p. 35.
5Ibid., p. 92.
ternal world is so conceived as to be identical with the object of geometry as interpreted by Descartes. That is, the world of matter has become a world of pure extension. Descartes had said in *Le Monde*,¹ "Give me extension and motion and I will construct the world." It is to be noted that in this account nature has become entirely mechanized. Were Descartes always consistent, he would have to say that mind can in no sense be a cause of the motions in nature. The modern world, retaining for a long period the substance view of mind, and the sharp separation of pure thought and sense, is increasingly impelled by the advance of science to give up the Greek view of mind as the principle of motion and order in nature. In this sense, the philosophy of the seventeenth century separates mind and nature more sharply than any period of classic thought.

With the external world reduced to pure extension, the world of sense could no longer be regarded as giving a direct contact with the external world. The external world must be known, if at all, by mind and not by sense. Even those aspects of "thought," as Descartes uses the term, which are closest to sense, such as the imagination and the emotions, must be called in question as vehicles of knowledge.² Paradoxically, nature is only to be known by that which is intrinsically different from nature, namely, by pure thought, by mind.

Descartes' treatment of mind is well known. From the fact that thinking occurs, on the assumption that any attribute must belong to a substance,³ Descartes concludes that there must be a substance which thinks, and this he calls mind. Since mind and body can be conceived apart, on the

２Descartes, *Meditations*, VI.
assumption that things which can be thought apart are separable in reality, mind and body must differ in essence. The essence of mind is thought; the essence of matter is extension. It is hardly necessary to point out today the dubious status of both assumptions. From the bare fact of thinking, nothing can be concluded. "Thinking is, therefore thinking is" is all that may be said, and not "I think therefore I am." It is clearly the religious tradition that supplies the content of the "I" as used by Descartes. This is evident when we remember that although Descartes calls mind "a thing which thinks," mind is really an aspect of the soul, in brief, it is "the whole of that soul which thinks," "a thing which doubts, understands, affirms, denies, wills, refuses, which also imagines and feels." Although the soul or mind, as he here admits, imagines and perceives, these aspects of mind are somehow due to the fact that mind is "inclosed" in the material body, for the essence of mind is pure thought. Not merely is mind sharply separated from nature, but within mind itself there is an unreconciled dualism between its purely rational and its sensuous constituents. In Descartes, no more than in Plato and Aristotle, has the gap between thought and sense been bridged. In addition, there has been raised in a more acute form the relation of mind as a whole to the world. The Cartesian dualism is a double dualism.

There is only one more phase of the Cartesian philosophy that must be mentioned here. It is clear that Descartes' position would require a complete denial of any participation of mind in nature. Descartes, however, shrinks from this

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1 Ibid., pp. 32, 59, 100.
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conclusion. Instead, he affirms that the mind uses the body as an instrument, and that it can act independently of the brain. While there are passages where Descartes states that mind is "coextensive with the body," he continually repeats "that the soul does not perceive excepting in as far as it is in the brain." The external world affects the body, the motion is transmitted to the brain, and then the mind somehow has ideas. How this takes place, Descartes admits cannot be understood. In a similarly incomprehensible manner, the mind can, by acting on the pineal gland, control the motions of the body. Descartes desperately tries to keep mind causally related to the world, but it is clear that this is inconsistent with his metaphysics, as Locke and Leibniz realized. The ambiguous treatment of imagination is further evidence that the interaction is never successfully accounted for.

Mind remains, then, inclosed in its ivory tower, a substance different in essence from the material world which in some mysterious manner it is supposed to know. What is given in experience is merely a set of cues useful for the preservation of the organism, and not genuine aspects of the physical world. When it is added that the fundamental features of this world view were adopted by Newton, it is evident that in what Mr. E. A. Burtt has well called the Galilean-Cartesian-Newtonian world-view, there had appeared a doctrine arising out of the fundamental features of Western civilization, a doctrine destined to dominate the

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1Ibid., vol. II, p. 212.
2Ibid., p. 255.
6N. K. Smith, op. cit., Appendix B to Chap. III.
thought of this civilization for many generations after the period of its formation. It is this view which has insinuated itself into our daily vocabulary, and into the philosophy which underlies the world-view of the science of the recent past.

IV

It is no exaggeration to say that the main movement of philosophy since Descartes has centered around the criticism and supplementation of the Galilean-Cartesian-Newtonian world-view. The direction of the movement has been toward the integration of mind and matter, and away from what Whitehead has called the "bifurcation of nature." As might be expected, attempts to dispense completely with the dominant world-view were preceded by a series of efforts which dealt with only single phases of the complex problem. Continuing, for the time being, to use the vague terms mind and matter, it is clear that the reactions to the dualistic metaphysics could take three directions: mind could be assimilated by matter; matter could be assimilated by mind; or mind and matter could be regarded as metaphysically parallel. Historically these possible positions are represented by Hobbes, by Berkeley and the German idealists, and by Spinoza.

Hobbes rightly insists that from the fact of thinking, Descartes could not legitimately conclude that there is an immaterial spiritual substance which thinks, thus anticipating a similar criticism by Kant. Hobbes then goes to the opposite extreme in contending that it is the physical body which thinks. All change is merely a change in the motion of bodies, and nothing can cause motion but another moving body. The whole world of sense, which he calls "ideas" or "phantasms" or "apparitions," and which with speech make

2Ibid., vol. IV, pp. 2, 3.
up all that is meant by mind, exists only in the organism and not in the world of bodies. Sense “can be nothing else but motions in some of the internal parts of the sentient.”¹ As Hobbes recognizes,³ on such a view “mind will be nothing but the motions in certain parts of an organic body.” Hobbes therefore keeps intact the matter side of the Galilean-Cartesian-Newtonian world-view, and its doctrine of representative perception. His innovation is in the insistence that the world of sense is itself merely a system of material motions. This world of matter is clearly taken on faith, since Hobbes never deals with the question as to how it is possible, if only the sensuous is given, to pass beyond the sensuous to a world of matter, and to affirm that the experienced world is really only material.

Spinoza continues to regard mind and matter as ultimate aspects of the universe, but instead of regarding them as two distinct substances, he regards them as two aspects of the single substance which can equally well be called God or Nature. The world as a whole, and every part of the world, has an aspect which is mental and an aspect which is physical.⁴ Ordo et connexio idearum idem est ac ordo et connexio rerum. If this doctrine be taken literally, it is true that there is metaphysically no problem as to how mind is related to matter, or how knowledge is possible, but the reverse problem arises as to how error is possible. Spinoza’s answer shows how deeply the Galilean-Cartesian-Newtonian world-view, and Descartes’ separation between pure thought and sense experience had become embedded in the stream of thought. In substance, Spinoza answers that the human mind

¹Ibid., vol. III, p. 16.
⁴“Thinking substance and extended substance are one and the same thing.” Spinoza, Ethics, Pt. II, Prop. 7.
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knows the external world only through modifications of the human body,¹ and that in knowing these modifications the external body is known,² to be sure, but known only inadequately, and in a confused and mutilated manner.³ To obtain knowledge, it therefore becomes necessary to distinguish the idea as pure thought from other "modes of thinking,"⁴ and to regard error as due to the imagination, that is, to the influence of the human body on the process of mind.⁵ Needless to say, this solution violates the central metaphysical principle of the parallelism of mind and matter. In Spinoza, as in Descartes, pure thought remains opposed to sense, and the human mind is still separated from the external world by the human body.

To the idealistic philosophy must go the credit for a sharp opposition to the mechanico-mathematical aspect of the Galilean-Cartesian-Newtonian world-view. It is, in fact, in this opposition that the key to the idealistic philosophy is to be found, for the historic task of idealism has been to vindicate after every great movement of science the status of human values, to resist the reduction of the complex phases of reality to the simpler phases, to restore to man a place of dignity in the cosmos. The philosophy of mind, connected so intimately with the realm of value, inevitably becomes the keystone of the idealist arch. In parrying the materialistic treatment of mind such as Hobbes would give, the traditional idealist replies with an equally extreme mentalizing of matter. Mind is the only reality; matter is but an aspect of mind or a stage in its development. In the conquest of matter idealism often has fallen back uncritically upon the theory of

¹Ibid., Prop. 26.
²Ibid., Prop. 16.
³Ibid., Propositions 28, 29, 31.
⁴Ibid., Axiom III.
mind of the very world-view whose mission it has been to oppose.

Berkeley, for instance, shows conclusively that matter cannot be conceived as a substratum of the world of experience if this be conceived as being the effect in the mind of the impact of the material world on the nerves and ultimately on the brain. The mind cannot be put in the brain, for the only brain that is known is the brain as experienced, and this brain, as a collection of "ideas" or experiences, would itself have to be regarded as mental and "in" the mind. In general, Berkeley maintains that there can be no necessary inference from the given qualitative world to a quantitative world of matter intrinsically different in essence. Berkeley takes the bold step of identifying the perceived world with the "real" world of nature, and thereby becomes the patron saint of all radically empirical philosophies. There is no world more real than the world as directly given, and Berkeley is keenly aware of the reconstruction in the philosophy of science which this position entails. Berkeley's own passage from phenomenalism to idealism seems to have been due to his uncritical acceptance of the then dominant view of mind as substance. Regarding all that is directly present as "in" or present to a "mind" or "spirit," mind being regarded as the unperceived perceiver which is grasped by "notions" and not by ideas, Berkeley is led to the conclusion that only minds and their contents exist. The world becomes a system of minds, and any existing thing which is not an object of finite mind owes its existence to its being an object of the infinite mind or God. As for the materiality of the

1 A. C. Fraser, Berkeley's Complete Works, vol. I, pp. 420-422.
2 Ibid., pp. 285, 295.
3 Ibid., p. 470 for Berkeley's use of the phrase "in the mind."
5 Ibid., pp. 260, 261; 446, 447.
things of daily life, such as tables and bodies and stars, Berkeley’s position is naively realistic: these things are as they are perceived to be, even though their reality cannot be severed from the relation to mind. It is only the underlying material substratum, the philosophic and not the vulgar matter, that Berkeley’s position denies.¹

However different Hegel may be in certain respects, it is clear that there is a great kinship between his and Berkeley’s view. For Hegel reality is a single process that may be equally well called Mind or Spirit or Thought,² and which in attaining its self-realization appears in forms which seem other than itself, but which in reality are only forms through which the ultimate self-realization is obtained.³ All of nature, for instance, is merely the process by which the infinite mind attains its fullest concreteness.⁴ Mind as a self-evolving universal has no object outside of itself to which it has to conform,—the objects which mind knows are its own products, its own self, in fact, in the form of “otherness.”⁵ Consciousness is ultimately self-consciousness;⁶ knowledge is ultimately self-knowledge;⁷ substance is ultimately self or subject.⁸ In a sense the infinite mind as conceived by Hegel is the expansion to infinity of the Cartesian self,⁹ a mind which now includes all other minds and all of that nature which is

¹Ibid., pp. 275-279.

²“The Absolute is Mind (Spirit)—this is the supreme definition of the Absolute.” (Wallace, Hegel’s Philosophy of Mind, p. 164.)

³Typical passages are found on pp. 16-17, 22-23, 157, 817-818 of Baillie’s translation of the Phenomenology of Mind.

⁴Ibid., p. 821.

⁵See Wallace’s The Logic of Hegel, pp. 44, 47.

⁶The Phenomenology of Mind, p. 161.

⁷Ibid., pp. 81, 822.

⁸Ibid., p. 52.

⁹Hegel calls sensations “alterations in the substantiality of the soul” (Wallace, Hegel’s Philosophy of Mind, p. 178), and speaks of the ego as “one and uncompounded” (ibid., p. 179).
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the object of scientific study. For Hegel as for Berkeley there is in the last analysis nothing real but mind. Speaking half jokingly, it may be said that a mind so inflated as to cover and include all reality is historically, like the ambitious child’s toy balloon, ready to break. After Hegel, philosophy has, for the most part, been content to treat mind less deferentially.

Before turning from Hegel, there is one point that may be noticed. At first reading, Hegel’s works seem to be saturated with an atmosphere of movement and development. Hegel, in fact, states¹ that “mind is essentially active . . . It is wrong therefore to take the mind for a processless ens. . . . The mind, of all things, must be looked at in its concrete actuality, in its energy.” This view of mind as process becomes increasingly prominent in the later idealistic developments, but in Hegel it is checked by the doctrine that all development is the development of a universal or identity that persists through the whole process. Although the absolute mind is “always identity returning and ever returned into itself,” it is also a “self-centered identity.”² It is “pulsating within itself, but ever motionless, shaken to its depths, but still at rest.”³ Further, the development is not a development in time,⁴ so from one point of view mind is not a process at all but a completely realized non-temporal Absolute which, as Emerson would say, “lies sheltered in perfect repose.” So that although Hegel suggests the view of mind as process, he himself never completely deserts the substance conception of mind, and to that degree never completely frees himself from one feature of the world-view which he so earnestly opposed.

¹Wallace, The Logic of Hegel, p. 69.
²Wallace, Hegel’s Philosophy of Mind, p. 291.
³The Phenomenology of Mind, p. 157.
⁴Ibid., p. 813.
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In the above historical sketch, no reference has been made to Hume or to Kant. Although both of these thinkers remain within the framework of the Galilean-Cartesian-Newtonian world-view, both suggest, without development, an approach to the problem of mind that is so much in the spirit of later views that it has seemed advisable to sacrifice historical to logical considerations.

Hume begins his account with the current doctrine that given experiences are "perceptions of the human mind." He continues to think of experience as caused by material objects working through the senses to produce impressions in the mind, maintaining specifically that there is no reason why matter could not cause thought. But Hume's analytical acumen forces him to realize that such material objects cannot be philosophically justified, and that there is no evidence whatever for a substance view of mind. He accordingly rejects the view of mind as substance and is even led to say that "nothing appears requisite to support the existence of a perception." Hume's scepticism and his turn from metaphysical to social and moral considerations are but the expression of the fundamental conflict in Hume between the Galilean-Cartesian-Newtonian world-view, and the empirical attitude, a conflict which Hume never resolves. It is while in the empirical mood that Hume suggests another distinct approach to mind, namely, the view of mind as a relation of things that in themselves are not necessarily mental. Instead of regarding experience as mental or in a mind, he suggests that mind is a relation or grouping of experienced factors which may pass in and out of mind unchanged. "A mind," is

3 Ibid., Bk. I, Pt. IV, sec. 5; p. 250.
4 Ibid., p. 234.
5 Ibid., sec. 2, p. 207.
nothing but a heap or collection of different perceptions, united together by certain relations, and supposed, though falsely, to be endowed with a perfect simplicity and identity."

"They are the successive perceptions only, that constitute the mind."1 "The mind is a kind of theatre . . . There is properly no *simplicity* in it at one time, nor *identity* in different." Hume never reworked his philosophy from the basis of a relational theory of mind,2 in fact he rejected the view because he regarded perceptions as dependent upon our organs,3 a rejection that is entirely beside the point, and which merely shows how deeply seated in Hume was the doctrine of a material substratum working upon the body to produce "mental" effects. While passing beyond the substance view of mind, Hume never adequately explored the implications of the alternative relational view which he suggests but dismisses.

A somewhat similar situation is revealed in Kant. Although Kant continues to believe personally in the kind of a soul or self that can be immortal, and although there can be but little doubt that it was this transcendent soul which was the seat of the forms of perception, the categories, the ideas, and the unity of consciousness, which was, in short, the synthetic mental activity which Kant introduced to justify certain and yet objectively relevant knowledge,4 Kant's

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1Ibid., sec. 6, p. 253.

2Berkeley, in the *Commonplace Book*, had suggested that "Mind is a congeries of perceptions." (Fraser, op. cit., vol. I, p. 27) Woodbridge remarks that the term perception was used so vaguely that it is doubtful whether mental acts or experienced content are referred to in this sentence (*Studies in the History of Ideas*, vol. II, p. 207, note). Due to other remarks of Berkeley (see Fraser, op. cit., pp. 33, 34) it seems reasonable to suppose that Berkeley anticipated Hume, but like Hume, never carries out the suggested implications.

3See the *Treatise*, Bk. I, Pt. IV, sec. 2, pp. 210-211.

4See N. K. Smith, *A Commentary to Kant's Critique of Pure Reason*, pp. 261, 476. Kant speaks of the "unity of consciousness which precedes all data of intuition, and without reference to which no representation of objects is
own analysis of the so-called rational psychology, revealing, as Hume had done, the paralogism of the Cartesian passage from the fact of thinking to the existence of a unitary spiritual thinker, forces him to admit that the substance view of the soul and mind cannot gain entrance into a critical philosophy. The way is accordingly open for an empirical analysis of the synthetic function of mind—a way which Kant himself did not follow, but which becomes of increasing interest after the notion of mental synthesis had received its romantic metaphysical elaboration by the romantic idealists.

In defending himself from the charge of subjective idealism, Kant goes so far as to admit that consciousness of self itself requires a consciousness of external objects. The development of this suggestion would dispense with a mind lying in wait to impress unity upon a world that in itself is merely a cosmic kaleidoscope, and would lead to a genuinely Copernican revolution instead of the Ptolemaic return which Kant mistook for a Copernican advance. In Kant as in Hume the movement to a critical empiricism is hindered by the retention, as over-beliefs to be sure, of certain features of the Galilean-Cartesian-Newtonian world-view. In Hume it is the ghost of matter that lingers; in Kant it is the ghost of the mind.

In closing this brief and too condensed historical survey, let us merely recall that in the early period of speculation in which mind and nature had not been sharply separated it was possible to regard mind as the principle of order and possible.” (Müller, Kant's Critique of Pure Reason, p. 88; cf. p. 694) In the Dissertation he had stated that “all sensitive apprehension depends upon the special nature of the subject, in so far as it is capable of being modified in diverse ways by the presence of objects.” (J. Handyside, Kant's Inaugural Dissertation, p. 44).

motion in nature; that as the difference between mind and matter developed into the opposition of two substances, mind was withdrawn from nature, and the gap between pure thought and matter became absolute; that as the attempts to reduce mind to matter, or matter to mind, or to conceive mind and matter parallelistically were found to introduce new difficulties, a tendency appeared to shift from the category of substance to the categories of process and relation, and to shift from metaphysical to empirical treatments of mind. In the contemporary period this shift is, with certain exceptions, accelerated, and it now becomes advisable to subject the substance, process, and relation theories of mind as they appear in contemporary thinkers to a more detailed analysis.¹

¹Space did not permit a discussion of the views of Locke and Leibniz. Locke represents the mature development of the Cartesian world-view, except that the empirical emphasis bridges the gap between pure thought and sense that is found in Descartes. The dualism between the world of experience and the world of matter remains, and the difficulties of this dualism begin to make themselves felt. Leibniz, in denying that perception could be explained by matter (Monadology, Sec. 17), helped to transfer the discussion to experiential terms, and the doctrine of the self-development of the monads helped to determine the emphasis of later German philosophy upon the creative activities of the subject, setting the pattern for the interpretation of the material world as a stage in the psychical development of the subject.