

Every science in its final standpoint and working aims is controlled by conditions lying outside itself—conditions that subsist in the practical life of the time. With no science is this as obviously true as with psychology. Taken without nicety of analysis, no one would deny that psychology is specially occupied with the individual; that it wishes to find out those things that proceed peculiarly from the individual, and the mode of their connection with him. Now, the way in which the individual is conceived, the value that is attributed to him, the things in his make-up that arouse interest, are not due at the outset to psychology. The scientific view regards these matters in a reflected, a borrowed, medium. They are revealed in the light of social life. An autocratic, an aristocratic, a democratic society propound such different estimates of the worth and place of individuality; they procure for the individual as an individual such different sorts of experience; they aim at arousing such different impulses and at organizing them according to such different purposes, that the psychology arising in each must show a different temper.

In this sense, psychology is a political science. While the professed psychologist, in his conscious procedure, may easily cut his subject-matter loose from these practical ties and references, yet the starting-point and goal of his course are none the less socially set. In this conviction I venture to introduce to an audience that could hardly be expected to be interested in the technique of psychology, a technical subject, hoping that the human meaning may yet appear.

There is at present a strong, apparently a growing tendency to conceive of psychology as an account of the consciousness of the individual, considered as something in and by itself; consciousness, the assumption virtually runs, being of such an order that it may be analyzed, described, and explained in terms of just itself. The statement, as commonly made, is that psychology is an account of consciousness, *qua* consciousness; and the phrase is supposed to limit psychology to a certain definite sphere of fact that may receive adequate discussion for scientific purposes, without troubling itself with what lies outside. Now if this conception be true, there is no intimate, no important connection of psychology and philosophy at large. That philosophy, whose range is comprehensive, whose problems are catholic, should be held down by a discipline whose voice is as partial as its material is limited, is out of the range of intelligent discussion.

But there is another possibility. If the individual of whom psychology treats be, after all, a social individual, any absolute setting off and apart of a sphere of consciousness as, even for scientific purposes, self-

## III The Experience of Knowing

The five essays in this section present the origins and development of Dewey's pragmatic epistemology. The early essays show Dewey's struggle to divest himself of the absolutistic claims of objective idealism and to move in the direction of a logic of inquiry in which the experience of knowing becomes as much the focus of concern as that which is known. This position is presented clearly in the last essay of this section, "The Pattern of Inquiry."

### II. "Consciousness" and Experience\*

At the turn of the century, Dewey was still very much concerned with the relative responsibilities of psychology and philosophy. In this essay, he attempts to bring their functions close together while being especially critical of that type of philosophy which continues to make judgments about human behavior, although innocent of important behavioral data. In a note at the conclusion of this essay, Dewey points to the developments in the first decade of the twentieth century, which bear out his earlier judgments and which provide the basis for a "pragmatic empiricism." Dewey, of course, participated in those developments, and several of the essays in which he articulated his positions are reprinted below—namely, "The Experimental Theory of Knowledge," "Experience and Objective Idealism," and "The Postulate of Immediate Empiricism."

\* From John Dewey, *The Influence of Darwin on Philosophy: And Other Essays on Contemporary Thought*, pp. 242-270. Copyright 1910 by Holt, Rinehart and Winston, Inc. Copyright 1938 by John Dewey. Reprinted by permission of Holt, Rinehart and Winston, Inc. (Published originally as "Psychology and Philosophic Method," May, 1899.)

sufficient, is condemned in advance. All such limitation, and all inquiries, descriptions, explanations that go with it, are only preliminary. "Consciousness" is but a symbol, an anatomy whose life is in natural and social operations. To know the symbol, the psychical letter, is important; but its necessity lies not within itself, but in the need of a language for reading the things signified. If this view be correct, we cannot be so sure that psychology is without large philosophic significance. Whatever meaning the individual has for the social life that he both incorporates and animates, that meaning has psychology for philosophy.

This problem is too important and too large to suffer attack in an evening's address. Yet I venture to consider a portion of it, hoping that such things as appear will be useful clues in entering wider territory. We may ask what is the effect upon psychology of considering its material as something so distinct as to be capable of treatment without involving larger issues. In this inquiry we take as representative some such account of the science as this: Psychology deals with consciousness "as such" in its various modes and processes. It aims at an isolation of each such as will permit accurate description: at statement of its place in the serial order such as will enable us to state the laws by which one calls another into being, or as will give the natural history of its origin, maturing, and dissolution. It is both analytic and synthetic—analytic in that it resolves each state into its constituent elements; synthetic in that it discovers the processes by which these elements combine into complex wholes and series. It leaves alone—it shuts out—questions concerning the validity, the objective import of these modifications: of their value in conveying truth, in effecting goodness, in constituting beauty. For it is just with such questions of worth, of validity, that philosophy has to do.

Some such view as this is held by the great majority of working psychologists to-day. A variety of reasons have conspired to bring about general acceptance. Such a view seems to enroll one in the ranks of the scientific men rather than of the metaphysicians—and there are those who distrust the metaphysicians. Others desire to take problems piecemeal and in detail, avoiding that excursion into ultimates, into that never-ending panorama of new questions and new possibilities that seems to be the fate of the philosopher. While no temperate mind can do other than sympathize with this view, it is hardly more than an expedient. For, as Mr. James remarks, after disposing of the question of free-will by relegating it to the domain of the metaphysician:—"Metaphysics means only an unusually obstinate attempt to

think clearly and consistently"—and clearness and consistency are not things to be put off beyond a certain point. When the metaphysician chimes in with this new-found modesty of the psychologist, so different from the disposition of Locke and Hume and the Mills, salvaging his metaphysical conscience with the remark—it hardly possesses the dignity of a conviction—that the partial sciences, just because they are partial, are not expected to be coherent with themselves nor with one another; when the metaphysician, I say, praises the psychologist for sticking to his last, we are reminded that another motive is also at work. There is a half-conscious irony in this abnegation of psychology. It is not the first time that science has assumed the work of Cinderella; and, since Mr. Huxley has happily reminded her, she is not altogether oblivious, in her modesty, of a possible future check to the pride of her haughty sister, and of a certain coronation that shall mark her coming to her own.

But, be the reasons as they may, there is little doubt of the fact. Almost all our working psychologists admit, nay, herald this limitation of their work. I am not presumptuous enough to set myself against this array. I too proclaim myself of those who believe that psychology has to do (at a certain point, that is) with "consciousness as such." But I do not believe that the limitation is final. Quite the contrary: if "consciousness" or "state of consciousness" be given intelligible meaning, I believe that this conception is the open gateway into the fair fields of philosophy. For, note you, the phrase is an ambiguous one. It may mean one thing to the metaphysician who proclaims: Here finally we have psychology recognizing her due metes and bounds, giving bonds to trespass no more. It may mean quite another thing to the psychologist in his work—whatever he may happen to say about it. It may be that the psychologist deals with states of consciousness as the significant, the analyzable and describable form, to which he reduces the things he is studying. Not that they *are* that existence, but that they are its indications, its clues, in shape for handling by scientific methods. So, for example, does the paleontologist work. Those curiously shaped and marked forms to which he is devoted are not life, nor are they the literal termini of his endeavor; but through them as signs and records he construes a life. And again, the painter-artist might well say that he is concerned only with colored paints as such. Yet none the less through them as registers and indices, he reveals to us the mysteries of sunny meadow, shady forest, and twilight wave. These are the things-in-themselves of which the oils on his palette are phenomena.

So the preoccupation of the psychologist with states of consciousness may signify that they are the media, the concrete conditions to which he purposely reduces his material, in order, *through them*, as methodological helps, to get at and understand that which is anything but a state of consciousness. To him, however, who insists upon the fixed and final limitation of psychology, the state of consciousness is not the shape some fact takes from the exigency of investigation; it is literally the full fact itself. It is not an intervening term; it bounds the horizon. Here, then, the issue defines itself. I conceive that states of consciousness (and I hope you will take the phrase broadly enough to cover all the specific data of psychology) have no existence before the psychologist begins to work. He brings them into existence. What we are really after is the process of experience, the way in which it arises and behaves. We want to know its course, its history, its laws. We want to know its various typical forms; how each originates; how it is related to others; the part it plays in maintaining an inclusive, expanding, connected course of experience. Our problem as psychologists is to learn its *modus operandi*, its method.

The paleontologist is again summoned to our aid. In a given district he finds a great number and variety of footprints. From these he goes to work to construct the structure and the life habits of the animals that made them. The tracks exist undoubtedly; they are there; but yet he deals with them not as final existences but as signs, phenomena in the literal sense. Imagine the hearing that the critic would receive who should inform the paleontologist that he is transcending his field of scientific activity; that his concern is with footprints as such, aiming to describe each, to analyze it into its simplest forms, to compare the different kinds with one another so as to detect common elements, and finally, thereby, to discover the laws of their arrangement in space!

Yet the immediate data are footprints, and footprints only. The paleontologist does in a way do all these things that our imaginary critic is urging upon him. The difference is not that he arbitrarily lugs in other data; that he invents entities and faculties that are not there. The difference is in his standpoint. His interest is in the animals, and the data are treated in whatever way seems likely to serve this interest. So with the psychologist. He is continually and perforce occupied with minute and empirical investigation of special facts—states of consciousness, if you please. But these neither define nor exhaust his scientific problem. They are his footprints, his clues through which he places before himself the life-process he is studying—with the further difference that his foot-

prints are not after all given to him, but are developed by his investigation.<sup>1</sup>

The supposition that these states are somehow existent by themselves and in this existence provide the psychologist with ready-made material is just the supreme case of the "psychological fallacy": the confusion of experience as it is to the one experiencing with what the psychologist makes out of it with his reflective analysis.

The psychologist begins with certain operations, acts, functions as his data. If these fall out of sight in the course of discussion, it is only because having been taken for granted, they remain to control the whole development of the inquiry, and to afford the sterling medium of redemption. Acts such as perceiving, remembering, intending, loving give the points of departure; they alone are concrete experiences. To understand these experiences, under what conditions they arise, and what effects they produce, analysis into states of consciousness occurs. And the modes of consciousness that are figured remain unarranged and unimportant, save as they may be translated back into acts.

To remember is to do something, as much as to shoe a horse, or to cherish a keepsake. To propose, to observe, to be kindly affectioned, are terms of value, of practice, of operation; just as digestion, respiration, locomotion express functions, not observable "objects." But there is an object that may be described: lungs, stomach, leg-muscles, or whatever. Through the structure we present to ourselves the function; it appears laid out before us, spread forth in detail—objectified in a word. The anatomist who devotes himself to this detail may, if he please (and he probably does please to concentrate his devotion) ignore the function: to discover what is there, to analyze, to measure, to describe, gives him outlet enough. But nevertheless it is the function that fixed the point of departure, that prescribed the problem and that set the limits, physical as well as intellectual, of subsequent investigation. Reference to function makes the details discovered other than a jumble of in-

<sup>1</sup> This is a fact not without its bearings upon the question of the nature and value of introspection. The objection that introspection "alters" the reality and hence is untrustworthy, most writers dispose of by saying that, after all, it need not alter the reality so very much—not beyond repair—and that, moreover, memory assists in restoring the ruins. It would be simpler to admit the fact: that the purpose of introspection is precisely to effect the right sort of alteration. If introspection should give us the original experience again, we should just be living through the experience over again in direct fashion; as psychologists we should not be forwarded one bit. Reflection upon this obvious proposition may bring to light various other matters worthy of note.

coherent trivialities. One might as well devote himself to the minute description of a square yard of desert soil were it not for this translation. States of consciousness are the morphology of certain functions.<sup>2</sup> What is true of analysis, of description, is true equally of classification. Knowing, willing, feeling, name states of consciousness not in terms of themselves, but in terms of acts, attitudes, found in experience.<sup>3</sup>

Explanation, even of an "empirical sort" is as impossible as determination of a "state" and its classification, when we rigidly confine ourselves to modifications of consciousness as a self-existent. Sensations are always defined, classified, and explained by reference to conditions which, according to the theory, are extraneous—sense-organs and stimuli. The whole physiological side assumes a ludicrously anomalous aspect on this basis.<sup>4</sup> While experimentation is retained, and even made much of, it is at the cost of logical coherence. To experiment with reference to a bare state of consciousness is a performance of which one cannot imagine the nature, to say nothing of doing it; while to experiment with reference to acts and the conditions of their occurrence is a natural and straightforward undertaking. Such simple processes as association are concretely inexplicable when we assume states of consciousness as existences by themselves. As recent psychology testifies,

<sup>2</sup> Thus to divorce "structure psychology" from "function psychology" is to leave us without possibility of scientific comprehension of function, while it deprives us of all standard of reference in selecting, observing, and explaining the structure.

<sup>3</sup> The following answer may fairly be anticipated: "This is true of the operations cited, but only because complex processes have been selected. Such a term as 'knowing' does of course express a function involving a system of intricate references. But, for that very reason, we go back to the sensation which is the genuine type of the 'state of consciousness' as such, pure and unadulterate and unso-phisticated." The point is large for a footnote, but the following considerations are instructive: (1) The same psychologist will go on to inform us that sensations, as we experience them, are networks of reference—they are perceptual, and more or less conceptual even. From which it would appear that whatever else they are or are not, the sensations, for which self-inclosed existence is claimed, are *not* states of consciousness. And (2) we are told that these are reached by scientific abstraction in order to account for complex forms. From which it would appear that they are hypothesized as products of interpretation and for purposes of further interpretation. Only the delusion that the more complex forms are just aggregates (instead of being acts, like seeing, hoping, etc.) prevents recognition of the point in question—that the "state of consciousness" is an instrument of inquiry or methodological appliance.

<sup>4</sup> On the other hand, if what we are trying to get at is just the course and procedure of experiencing, of course any consideration that helps distinguish and make comprehensible that process is thoroughly pertinent.

we again have to resort to conditions that have no place nor calling on the basis of the theory—the principle of habit, of neural action, or else some connection in the object.<sup>5</sup>

We have only to note that there are two opposing schools in psychology to see in what an unconscious status is the subject. We have only to consider that these two schools are the result of assuming states of consciousness as existences *per se* to locate the source of the scientific scandal. No matter what the topic, whether memory or association or attention or effort, the same dualisms present themselves, the same necessity of choosing between two schools. One, lost in the distinctions that it has developed, denies the function because it can find objectively presented only states of consciousness. So it abrogates the function, regarding it as a mere aggregate of such states, or as a purely external and factitious relation between them. The other school, recognizing that this procedure explains away rather than explains, the values of experience, attempts to even up by declaring that certain functions are themselves immediately given data of consciousness, existing side by side with the "states," but indefinitely transcending them in worth, and apprehended by some higher organ. So against the elementary contents and external associations of the analytic school in psychology, we have the complicated machinery of the intellectualist school, with its pure self-consciousness as a source of ultimate truths, its hierarchy of intuitions, its ready-made faculties. To be sure, these "spiritual faculties" are now largely reduced to some one comprehensive form—Apperception, or Will, or Attention, or whatever the fashionable term may be. But the principle remains the same; the assumption of a function as given existent, distinguishable in itself and acting upon other existences—as if the functions digestion and vision were regarded as separate from organic structures, somehow acting upon them from the outside so as to bring co-operation and harmony into them!<sup>6</sup> This division into psychological schools is as reasonable as would be one of botanists into rootists and flowerists; of those proclaiming the root to be the rudimentary and essential structure, and those asserting that since

<sup>5</sup> It may avoid misunderstanding if I anticipate here a subsequent remark: that my point is not in the least that "states of consciousness" require some "synthetic unity" or faculty of substantial mind to effect their association. Quite the contrary; for this theory also admits the "states of consciousness" as existences in themselves also. My contention is that the "state of consciousness" as such is always a methodological product, developed in the course and for the purposes of psychological analysis.

<sup>6</sup> The "functions" are in truth ordinary everyday acts and attitudes: seeing, smelling, talking, listening, remembering, hoping, loving, fearing.

the function of seed-bearing is the main thing, the flower is really the controlling "synthetic" principle. Both sensationalist and intellectualist suppose that psychology has some special sphere of "reality" or of experience marked off for it within which the data are just lying around, self-existent and ready-made, to be picked up and assorted as pebbles await the visitor on the beach. Both alike fail to recognize that the psychologist first has experience to deal with; the same experience that the zoologist, geologist, chemist, mathematician, and historian deal with, and that what characterizes his specialty is not some data or existences which he may call uniquely his own; but the problem raised—the problem of the *course* of the acts that constitute experiencing.

Here psychology gets its revenge upon those who would rule it out of possession of important philosophical bearing. As a matter of fact, the larger part of the questions that are being discussed in current epistemology and what is termed metaphysic of logic and ethic arise out of (and are hopelessly compromised by) this original assumption of "consciousness as such"—in other words, are provoked by the exact reason that is given for denying to psychology any essential meaning for epistemology and metaphysic. Such is the irony of the situation. The epistemologist's problem is, indeed, usually put as the question of how the subject can so far "transcend" itself as to get valid assurance of the objective world. The very phraseology in which the problem is put reveals the thoroughness of the psychologist's revenge. Just and only because experience has been reduced to "states of consciousness" as independent existences, does the question of self-transcendence have any meaning. The entire epistemological industry is one—shall I say it—of a Sisyphian nature. *Mutatis mutandis*, the same holds of the metaphysic of logic, ethic, and esthetic. In each case, the basic problem has come to be how a mere state of consciousness can be the vehicle of a system of truth, of an objectively valid good, of beauty which is other than agreeable feeling. We may, indeed, excuse the psychologist for not caring on the special inquiries that are the business of logical, ethical, and esthetical philosophy; but can we excuse ourselves for forcing his results into such a shape as to make philosophic problems so arbitrary that they are soluble only by arbitrarily wrenching scientific facts?

Undoubtedly we are between two fires. In placing upon psychology the responsibility of discovering the method of experience, as a sequence of acts and passions, do we not destroy just that limitation to concrete detail which now constitutes it a science? Will not the psychologist be the first to repudiate this attempt to mix him up in matters philosophical? We need only to keep in mind the specific facts involved

in the term Course or Process of Experience to avoid this danger. The immediate preoccupation of the psychologist is with very definite and empirical facts—questions like the limits of audition, of the origin of pitch, of the structure and conditions of the musical scale, etc. Just so the immediate affair of the geologist is with particular rock-structures, of the botanist with particular plants, and so on. But through the collection, description, location, classification of rocks the geologist is led to the splendid story of world-forming. The limited, fixed, and separate piece of work is dissolved away in the fluent and dynamic drama of the earth. So, the plant leads with inevitableness to the whole process of life and its evolution.

In form, the botanist still studies the genus, the species, the plant—hardly, indeed, that; rather the special parts, the structural elements, of the plant. In reality, he studies life itself; the structures are the indications, the signature through which he renders transparent the mystery of life growing in the changing world. It was doubtless necessary for the botanist to go through the Linnean period—the period of engagement with rigid detail and fixed classifications; of tearing apart and piecing together; of throwing all emphasis upon peculiarities of number, size, and appearance of matured structure; of regarding change, growth, and function as external, more or less interesting, attachments to form. Examination of this period is instructive; there is much in contemporary investigation and discussion that is almost unpleasantly reminiscent in its suggestiveness. The psychologist should profit by the intervening history of science. The conception of evolution is not so much an additional law as it is a face-about. The fixed structure, the separate form, the isolated element, is henceforth at best a mere stepping-stone to knowledge of process, and when not at its best, marks the end of comprehension, and betokens failure to grasp the problem.

With the change in standpoint from self-included existence to including process, from structural unit of composition to controlling unity of function, from changeless form to movement in growth, the whole scheme of values is transformed. Faculties are definite directions of development; elements are products that are starting-points for new processes; bare facts are indices of change; static conditions are modes of accomplished adjustment. Not that the concrete, empirical phenomenon loses in worth, much less that unverifiable "metaphysical" entities are impertinently introduced; but that our aim is the discovery of a process of actions in its adaptations to circumstance. If we apply this evolutionary logic in psychology, where shall we stop? Questions of

limits of stimuli in a given sense, say hearing, are in reality questions of temporary arrests, adjustments marking the favorable equilibrium of the whole organism; they connect with the question of the use of sensation in general and auditory sensations in particular for life-habits; of the origin and use of localized and distinguished perception; and this, in turn, involves within itself the whole question of space and time recognition; the significance of the thing-and-quality experience, and so on. And when we are told that the question of the origin of space experience has nothing at all to do with the question of the nature and significance of the space experienced, the statement is simply evidence that the one who makes it is still at the static standpoint; he believes that things, that relations, have existence and significance apart from the particular conditions under which they come into experience, and apart from the special service rendered in those particular conditions.

Of course, I am far from saying that every psychologist must make the whole journey. Each individual may contract, as he pleases, for any section or subsection he prefers; and undoubtedly the well-being of the science is advanced by such division of labor. But psychology goes over the whole ground from detecting every distinct act of experiencing, to seeing what need calls out the special organ fitted to cope with the situation, and discovering the machinery through which it operates to keep a-going the course of action.

But, I shall be told, the wall that divides psychology from philosophy cannot be so easily treated as non-existent. Psychology is a matter of natural history, even though it may be admitted that it is the natural history of the course of experience. But philosophy is a matter of values; of the criticism and justification of certain validities. One deals, it is said, with genesis, with conditions of temporal origin and transition; the other with analysis, with eternal constitution. I shall have to repeat that just this rigid separation of genesis and analysis seems to me a survival from a pre-evolutionary, a pre-historic age. It indicates not so much an assured barrier between philosophy and psychology as the distance dividing philosophy from all science. For the lesson that mathematicians first learned, that physics and chemistry pondered over, in which the biological disciplines were finally tutored, is that sure and delicate analysis is possible only through the patient study of conditions of origin and development. The method of analysis in mathematics is the method of construction. The experimental method is the method of making, of following the history of production; the term 'cause' that has (when taken as an existent entity) so hung on the heels of science as to impede its progress, has universal meaning when read as condition of

appearance in a process. And, as already intimated, the conception of evolution is no more and no less the discovery of a general law of life than it is the generalization of all scientific method. Everywhere analysis that cannot proceed by examining the successive stages of its subject, from its beginning up to its culmination, that cannot control this examination by discovering the conditions under which successive stages appear, is only preliminary. It may further the invention of proper tools of inquiry, it may help define problems, it may serve to suggest valuable hypotheses. But as science it breathes an air already tainted. There is no way to sort out the results flowing from the subject-matter itself from those introduced by the assumptions and presumptions of our own reflection. Not so with natural history when it is worthy of its name. Here the analysis is the unfolding of the existence itself. Its distinctions are not pigeon-holes of our convenience; they are stakes that mark the parting of the ways in the process itself. Its classifications are not a grasp at factors resisting further analysis; they are the patient tracings of the paths pursued. Nothing is more out of date than to suppose that interest in genesis is interest in reducing higher forms to cruder ones: it is interest in locating the exact and objective conditions under which a given fact appears, and in relation to which accordingly it has its meaning. Nothing is more naïve than to suppose that in pursuing "natural history" (term of scorn in which yet resides the dignity of the world-drama) we simply learn something of the temporal conditions under which a given value appears, while its own eternal essential quality remains as opaque as before. Nature knows no such divorce of quality and circumstance. Things come when they are wanted and as they are wanted; their quality is precisely the response they give to the conditions that call for them, while the furtherance they afford to the movement of their whole is their meaning. The severance of analysis and genesis, instead of serving as a ready-made test by which to try out the empirical, temporal events of psychology from the rational abiding constitution of philosophy, is a brand of philosophic dualism: the supposition that values are externally obtruded and statically set is irrelevant rubbish.

There are those who will admit that "states of consciousness" are but the cross-sections of flow of behavior, arrested for inspection, made in order that we may reconstruct experience in its life-history. Yet in the knowledge of the course and method of our experience, they will hold that we are far from the domain proper of philosophy. Experience, they say, is just the historic achievement of finite individuals; it tells the tale of approach to the treasures of truth, of partial victory, but larger de-

feat, in laying hold of the treasure. But, they say, reality is not the path to reality, and record of devious wanderings in the path is hardly a safe account of the goal. Psychology, in other words, may tell us something of how we mortals lay hold of the world of things and truths; of how we appropriate and assimilate its contents; and how we react. It may trace the issues of such approaches and apprehensions upon the course of our own individual destinies. But it cannot wisely ignore nor sanely deny the distinction between these individual strivings and achievements, and the "Reality" that subsists and supports its own structure outside these finite utilities. The processes by which we turn over The Reality into terms of our fragmentary uncompleted, inconclusive experiences are so extrinsic to the Reality itself as to have no revealing power with reference to it. There is the *ordo ad universum*, the subject of philosophy; there is the *ordo ad individuum*, the subject of psychology.

Some such assumption as this lies latent, I am convinced, in all forswearings of the kinship of psychology and philosophy. Two conceptions hang together. The opinion that psychology is an account only and finally of states of consciousness, and therefore can throw no light upon the objects with which philosophy deals, is twin to the doctrine that the whole conscious life of the individual is not organic to the world. The philosophic basis and scope of this doctrine lie beyond examination here. But even in passing one cannot avoid remarking that the doctrine is almost never consistently held; the doctrine logically carried out leads so directly to intellectual and moral scepticism that the theory usually prefers to work in the dark background as a disposition and temper of thought rather than to make a frank statement of itself. Even in the halfhearted expositions of the process of human experience as something merely annexed to the reality of the universe, we are brought face to face to the consideration with which we set out: the dependence of theories of the individual upon the position at a given time of the individual practical and social. The doctrine of the accidental, futile, transitory significance of the individual's experience as compared with eternal realities; the notion that at best the individual is simply realizing for and in himself what already has fixed completeness in itself is congruous only with a certain intellectual and political scheme and must modify itself as that shifts. When such rearrangement comes, our estimate of the nature and importance of psychology will mirror the change.

When man's command of the methods that control action was precarious and disturbed; when the tools that subject the world of things and forces to use and operation were rare and clumsy, it was unavoidable that the individual should submit his perception and purpose blankly to the blank reality beyond. Under such circumstances, external authority must reign; the belief that human experience in itself is approximate, not intrinsic, is inevitable. Under such circumstances, reference to the individual, to the subject, is a resort only for explaining error, illusion, and uncertainty. The necessity of external control and external redemption of experience reports itself in a low valuation of the self, and of all the factors and phases of experience that spring from the self. That the psychology of medievalism should appear only as a portion of its theology of sin and salvation is as obvious as that the psychology of the Greeks should be a chapter of cosmology.

As against all this, the assertion is ventured that psychology, supplying us with knowledge of the behavior of experience, is a conception of democracy. Its postulate is that since experience fulfills itself in individuals, since it administers itself through their instrumentality, the account of the course and method of this achievement is a significant and indispensable affair.

Democracy is possible only because of a change in intellectual conditions. It implies tools for getting at truth in detail, and day by day, as we go along. Only such possession justifies the surrender of fixed, all-embracing principles to which, as universals, all particulars and individuals are subject for valuation and regulation. Without such possession, it is only the courage of the fool that would undertake the venture to which democracy has committed itself—the ordering of life in response to the needs of the moment in accordance with the ascertained truth of the moment. Modern life involves the deification of the here and the now; of the specific, the particular, the unique, that which happens once and has no measure of value save such as it brings with itself. Such deification is monstrous fetishism, unless the deity be there; unless the universal lives, moves, and has its being in experience as individualized.<sup>7</sup> This conviction of the value of the individualized finds its

<sup>7</sup> This is perhaps a suitable moment to allude to the absence, in this discussion, of reference to what is sometimes termed rational psychology—the assumption of a separate, substantialized ego, soul, or whatever, existing side by side with particular experiences and "states of consciousness," acting upon them and acted upon by them. In ignoring this and confining myself to the "states of consciousness"

further expression in psychology, which undertakes to show how this individualization proceeds, and in what aspect it presents itself.

Of course, such a conception means something for philosophy as well as for psychology; possibly it involves for philosophy the larger measure of transformation. It involves surrender of any claim on the part of philosophy to be the sole source of some truths and the exclusive guardian of some values. It means that philosophy be a method; not an assurance company, nor a knight errant. It means an alignment with science. Philosophy may not be sacrificed to the partial and superficial clamor of that which sometimes officiously and pretentiously exhibits itself as Science. But there is a sense in which philosophy must go to school to the sciences; must have no data save such as it receives at their hands; and be hospitable to no method of inquiry or reflection not akin to those in daily use among the sciences. As long as it claims for itself special territory of fact, or peculiar modes of access to truth, so long must it occupy a dubious position. Yet this claim it has to make until psychology comes to its own. There is something in experience, something in things, which the physical and the biological sciences do not touch; something, moreover, which is not just more experiences or more existences; but without which their materials are inexperienced, unrealized. Such sciences deal only with what *might* be experienced; with the content of experience, provided and assumed there be experience. It is psychology which tells us how this possible experience loses its barely hypothetical character, and is stamped with categorical unquestioned experiencedness; how, in a word, it becomes here and

there and the "natural history" theory, I may appear not only to have unduly narrowed the concerns at issue, but to have weakened my own point, as this doctrine seems to offer a special vantage ground whence to defend the close relationship of psychology and philosophy. The "narrowing," if such it be, will have to pass—from limits of time and other matters. But the other point I cannot concede. The independently existing soul restricts and degrades individuality, making of it a separate thing outside of the full flow of things, alien to things experienced and consequently in either mechanical or miraculous relations to them. It is vitiated by just the quality already objected to—that psychology has a separate piece of reality apportioned to it, instead of occupying itself with the manifestation and operation of any and all existences in reference to concrete action. From this point of view, the "states of consciousness" attitude is a much more hopeful and fruitful one. It ignores certain considerations, to be sure; and when it turns its ignoring into denial, it leaves us with curious hieroglyphics. But after all, there is a key; these symbols can be read; they may be translated into terms of the course of experience. When thus translated, selfhood, individuality, is neither wiped out nor set up as a miraculous and foreign entity; it is seen as the unity of reference and function involved in all things when fully experienced—the pivot about which they

now in some uniquely individualized life. Here is the necessary transition of science into philosophy; a passage that carries the verified and solid body of the one into the large and free form of the other.\*

## 12. The Experimental Theory of Knowledge\*

An earlier version of this essay appeared in *Mind* in 1906. Along with approximately a dozen other essays published between 1905 and 1907, Dewey attempts in this selection to frame out a metaphysics of experience, with particular emphasis on the meaning of relations in the knowing process. These efforts of Dewey correspond thematically with those of William James between 1904 and 1906 to also develop a metaphysics of relations, called by James a "radical empiricism."

In this essay, "The Experimental Theory of Knowledge," Dewey cites his opposition to those for whom the knowing process is "a strictly 'mental' thing" and to those for whom "our 'mental states' are bare transitory hints" of absolute reality. To the contrary, Dewey stresses the "intending" character of knowing and the relational character of truth.

\* [Note: I have let this paper stand much as written, though now conscious that much more is crowded into it than could properly be presented in one paper. The drift of the ten years from '99 to '09 has made, I venture to believe, for increased clearness in the main positions of the paper: The revival of a naturalistic realism, the denial of the existence of "consciousness," the development of functional and dynamic psychology (accompanied by aversion to interpretation of functions as faculties of a soul-substance)—all of these tendencies are sympathetic with the aim of the paper. There is another reason for letting it stand: the new functional and pragmatic empiricism proffered in this volume has been constantly objected to on the ground that its conceptions of knowledge and verification lead only to subjectivism and solipsism. The paper may indicate that the identification of experience with bare states of consciousness represents the standpoint of the critic, not of the empiricism criticized, and that it is for him, not for me, to fear the subjective implications of such a position. The paper also clearly raises the question as to how far the isolation of "consciousness" from nature and social life, which characterizes the procedure of many psychologists of to-day, is responsible for keeping alive quite unreal problems in philosophy.]

\* From John Dewey, *The Influence of Darwin on Philosophy: And Other Essays in Contemporary Thought*, pp. 77-111. Copyright 1910 by Holt, Rinehart and Winston, Inc. Copyright 1938 by John Dewey. Reprinted by permission of Holt, Rinehart and Winston, Inc. (Published originally in July, 1906.)

Dewey writes that "fulfillment, completion are always relative terms. Hence the criterion of the truth or falsity of the meaning, of the adequacy, of the cognitional thing lies within the relationships of the situation and not without." He prefers the adverb "truly" to the abstract noun "truth," but perhaps it can be said that what he points to are our attempts at "trueing."

It should be possible to discern and describe a knowing as one identifies any object, concern, or event. It must have its own marks; it must offer characteristic features—as much so as a thunder-storm, the constitution of a State, or a leopard. In the search for this affair, we are first of all desirous for something which is for itself, contemporaneously with its occurrence, a cognition, not something called knowledge by another and from without—whether this other be logician, psychologist, or epistemologist. The "knowledge" may turn out false, and hence no knowledge; but this is an after-affair; it may prove to be rich in fruitage of wisdom, but if this outcome be only wisdom after the event, it does not concern us. What we want is just something which takes itself as knowledge, rightly or wrongly.

## I

This means a specific case, a sample. Yet instances are proverbially dangerous—so naïvely and graciously may they beg the questions at issue. Our recourse is to an example so simple, so much on its face as to be as innocent as may be of assumptions. This case we shall gradually complicate, mindful at each step to state just what new elements are introduced. Let us suppose a smell, just a floating odor. This odor may be anchored by supposing that it moves to action; it starts changes that end in picking and enjoying a rose. This description is intended to apply to the course of events witnessed and recounted from without. What sort of a course must it be to constitute a knowledge, or to have somewhere within its career that which deserves this title? The smell, *imprimis*, is there; the movements that it excites are there; the final plucking and gratification are experienced. But, let us say, the smell is not the smell of the rose; the resulting change of the organism is not a sense of walking and reaching; the delicious finale is not the fulfilment of the movement, and, through that, of the original smell; "is not," in each case meaning is "not experienced as" such. We may take, in short, these ex-

periences in a brutally serial fashion. The smell, *S*, is replaced (and displaced) by a felt movement, *K*, this is replaced by the gratification, *G*. Viewed from without, as we are now regarding it, there is *S-K-G*. But from within, for itself, it is now *S*, now *K*, now *G*, and so on to the end of the chapter. Nowhere is there looking before and after; memory and anticipation are not born. Such an experience neither is, in whole or in part, a knowledge, nor does it exercise a cognitive function.

Here, however, we may be halted. If there is anything present in "consciousness" at all, we may be told (at least we constantly are so told) there must be knowledge of it as present—present, at all events, in "consciousness." There is, so it is argued, knowledge at least of a simple apprehensive type, knowledge of the acquaintance order, knowledge *that*, even though not knowledge *what*. The smell, it is admitted, does not know *about* anything else, nor is anything known *about* the smell (the same thing, perhaps); but the smell is known, either by itself, or by the mind, or by some subject, some unwinking, unremitting eye. No, we must reply; there is no apprehension without some (however slight) context; no acquaintance which is not either recognition or expectation. Acquaintance is presence honored with an escort; presence is introduced as familiar, or an associate springs up to greet it. Acquaintance always implies a little friendliness; a trace of re-knowing, of anticipatory welcome or dread of the trait to follow.

This claim cannot be dismissed as trivial. If valid, it carries with it the distance between being and knowing; and the recognition of an element of mediation, that is, of art, in all knowledge. This disparity, this transcendence, is not something which holds of *our* knowledge, of finite knowledge, just marking the gap between our type of consciousness and some other with which we may contrast it after the manner of the agnostic or the transcendentalist (who hold so much property in joint ownership!), but exists because knowing is knowing, that way of bringing things to bear upon things which we call reflection—a manipulation of things experienced in the light one of another.

"Feeling," I read in a recent article, "feeling is immediately acquainted with its own quality, with its own subjective being."<sup>1</sup> How

<sup>1</sup> I must remind the reader again of a point already suggested. It is the identification of presence in consciousness with knowledge as such that leads to setting up a mind (*ego*, subject) which has the peculiar property of knowing (only so often it knows wrong!), or else that leads to supplying "sensations" with the peculiar property of surveying their own entails. Given the correct feeling that knowledge involves relationship, there being, by supposition, no other *thing* to which the thing in consciousness is related, it is forthwith related to a soul substance, or to its ghostly offspring, a "subject," or to "consciousness" itself.

and whence this duplication in the inwards of feeling into feeling the knower and feeling the known? into feeling as being and feeling as acquaintance? Let us frankly deny such monsters. Feeling *is* its own quality; is its own *specific* (whence and why, once more, *subjective?*) being. If this statement be dogmatism, it is at least worth insistent declaration, were it only by way of counter-irritant to that other dogmatism which asserts that being in "consciousness" is always presence for or in knowledge. So let us repeat once more, that to *be* a smell (or anything else) is one thing, to be *known* as smell, another; to be a "feeling" one thing, to be *known* as a "feeling" another.<sup>2</sup> The first is thinghood; existence indubitable, direct; in this way all things *are* that are in "consciousness" at all.<sup>3</sup> The second is *reflected* being, things indicating and calling for other things—something offering the possibility of truth and hence of falsity. The first is genuine immediacy; the second is (in the instance discussed) a pseudo-immediacy, which in the same breath that it proclaims its immediacy smuggles in another term (and one which is unexperienced both in itself and in its relation) the subject or "consciousness," to which the immediate is related.<sup>4</sup>

But we need not remain with dogmatic assertions. To be acquainted with a thing or with a person has a definite empirical meaning; we have only to call to mind what it is to be genuinely and empirically acquainted, to have done forever with this uncanny presence which, though bare and simple presence, is yet known, and thus is clothed upon and complicated. To be acquainted with a thing is to be assured (from the standpoint of the experience itself) that it is of such and such a character; that it will behave, if given an opportunity, in such and such a

<sup>2</sup> Let us further recall that this theory requires either that things present shall already be psychical things (feelings, sensations, etc.), in order to be assimilated to the knowing mind, subject to consciousness; or else translates genuinely naïve realism into the miracle of a mind that gets outside itself to lay its ghostly hands upon the things of an external world.

<sup>3</sup> This means that things may be present *as* known, just as they be present as hard or soft, agreeable or disgusting, hoped for or dreaded. The mediacy, or the art of intervention, which characterizes knowledge, indicates precisely the way in which known things as known are immediately present.

<sup>4</sup> If Hume had had a tithe of the interest in the *flux* of perceptions and in *habit*—principles of continuity and of organization—which he had in distinct and isolated existences, he might have saved us both from German *Erkenntnisstheorie*, and from that modern miracle play, the psychology of elements of consciousness, that under the aegis of science, does not hesitate to have psychical elements compound and breed, and in their agile intangibility put to shame the performances of their less acrobatic cousins, physical atoms.

way; that the obviously and flagrantly present trait is associated with fellow traits that will show themselves, if the leadings of the present trait are followed out. To be acquainted is to anticipate to some extent, on the basis of prior experience. I am, say, barely acquainted with Mr. Smith: then I have no extended body of associated qualities along with those palpably present, but at least some one suggested trait occurs; his nose, his tone of voice, the place where I saw him, his calling in life, an interesting anecdote about him, etc. To be acquainted is to know what a thing is *like* in some particular. If one is acquainted with the smell of a flower it means that the smell is not just smell, but reminds one of some other experienced thing which stands in continuity with the smell. There is thus supplied a condition of control over or purchase upon what is present, the possibility of translating it into terms of some other trait not now sensibly present.

Let us return to our example. Let us suppose that *S* is not just displaced by *K* and then by *G*. Let us suppose it persists; and persists not as an unchanged *S* alongside *K* and *G*, nor yet as fused with them into a new further quale *J*. For in such events, we have only the type already considered and rejected. For an observer the new quale might be more complex, or fuller of meaning, than the original *S*, *K*, or *G*, but might not be experienced *as* complex. We might thus suppose a composite photograph which should suggest nothing of the complexity of its origin and structure. In this case we should have simply another picture.

But we may also suppose that the blur of the photograph suggests the superimposition of pictures and something of their character. Then we get another, and for our problem, much more fruitful kind of persistence. We will imagine that the final *G* assumes this form: Gratification-terminating-movement-induced-by-smell. The smell is still present; it has persisted. It is not present in its original form, but is represented with a quality; an office, that of having excited activity and thereby terminating its career in a certain quale of gratification. It is not *S*, but  $\bar{S}$ ; that is *S* with an increment of meaning due to maintenance and fulfillment through a process. *S* is no longer just smell, but smell which has excited and thereby secured.

Here we have a cognitive, but not a cognitional thing. In saying that the smell is finally experienced as *meaning* gratification (through intervening handling, seeing, etc.) and meaning it not in a hapless way, but in a fashion which operates to effect what is meant, we retrospectively attribute intellectual force and function to the smell—and this is what is signified by "cognitive." Yet the smell is not cognitional, be-

cause it did not knowingly intend to mean this; but is found, after the event, to have meant it. Nor again is the final experience, the  $\Sigma$  or transformed  $S$ , a knowledge.

Here again the statement may be challenged. Those who agree with the denial that bare presence of a quale in "consciousness" constitutes acquaintance and simple apprehension, may now turn against us, saying that experience of fulfilment of meaning is just what we mean by knowledge, and this is just what the  $\Sigma$  of our illustration is. The point is fundamental. As the smell at first was presence or being, less than knowing, so the fulfilment is an experience that is more than knowing. Seeing and handling the flower, enjoying the full meaning of the smell as the odor of just this beautiful thing, is not knowledge because it is more than knowledge.

As this may seem dogmatic, let us suppose that the fulfilment, the realization, experience, is a knowledge. Then how shall it be distinguished from and yet classed with other things called knowledge, viz., reflective, discursive cognitions? Such knowledges are what they are precisely because they are not fulfilments, but intentions, aims, schemes, symbols of overt fulfilment. Knowledge, perceptual and conceptual, of a hunting dog is prerequisite in order that I may really hunt with the hounds. The hunting in turn may increase my knowledge of dogs and their ways. But the knowledge of the dog, *qua* knowledge, remains characteristically marked off from the use of that knowledge in the fulfilment experience, the hunt. The hunt is a *realization* of knowledge; it alone, if you please, verifies, validates, knowledge, or supplies tests of truth. The prior knowledge of the dog, was, if you wish, hypothetical, lacking in assurance or categorical certainty. The hunting, the fulfilling, realizing experience alone *gives* knowledge, because it alone completely assures; makes faith good in works.

Now there is and can be no objection to this definition of knowledge, *provided it is consistently adhered to*. One has as much right to identify knowledge with complete assurance, as I have to identify it with anything else. Considerable justification in the common use of language, in common sense, may be found for defining knowledge as complete assurance. But even upon this definition, the fulfilling experience is not, as such, complete assurance, and hence not a knowledge. Assurance, cognitive validation, and guarantee, follow from it, but are not coincident with its occurrence. It *gives*, but is not, assurance. The concrete construction of a story, the manipulation of a machine, the hunting with the dogs, is not, so far as it is fulfilment, a confirmation of meanings previously entertained as cognitional; that is, is not contemporaneously

experienced as such. To think of prior schemes, symbols, meanings, as fulfilled in a subsequent experience, is reflectively to present in their relations to one another both the meanings and the experiences in which they are, as a matter of fact, embodied. This reflective attitude cannot be identical with the fulfilment experience itself; it occurs only in retrospect when the worth of the meanings, or cognitive ideas, is critically inspected in the light of their fulfilment; or it occurs as an interruption of the fulfilling experience. The hunter stops his hunting as a fulfilment to reflect that he made a mistake in his idea of his dog, or again, that his dog is everything he thought he was—that his notion of him is confirmed. Or, the man stops the actual construction of his machine and turns back upon his plan in correction or in admiring estimate of its value. *The fulfilling experience is not of itself knowledge*, then, even if we identify knowledge with fulness of assurance or guarantee. Moreover it gives, affords, assurance only in reference to a situation which we have not yet considered.<sup>5</sup>

Before the category of confirmation or refutation can be introduced, there must be something which *means* to mean something and which therefore can be guaranteed or nullified by the issue—and this is precisely what we have not as yet found. We must return to our instance and introduce a further complication. Let us suppose that the smell quale recurs at a later date, and that it recurs neither as the original  $S$  nor yet as the final  $\Sigma$ , but as an  $S'$  which is fated or charged with the sense of the possibility of a fulfilment like unto  $\Sigma$ . The  $S'$  that recurs is aware of something else which it means, which it intends to effect through an operation incited by it and without which its own presence is abortive, and, so to say, unjustified, senseless. Now we have an experience which is *cognitional*, not merely cognitive; which is contemporaneously aware of meaning something beyond itself, instead of having this meaning ascribed by another at a later period. *The odor knows the rose; the rose is known by the odor; and the import of each term is constituted by the relationship in which it stands to the other*. That is, the import of the smell is the indicating and demanding relation which it sustains to the enjoyment of the rose as its fulfilling experience; while this enjoyment is just the content or definition of what the smell consciously meant, *i.e.*, meant to mean. Both the thing meaning and the thing meant are elements in the same situation. Both are present, but both are not present in the same way. In fact, one is present as-*not-*

<sup>5</sup> In other words, the situation as described is not to be confused with the case of hunting on purpose to test an idea regarding the dog.

present-in-the-same-way-in-which-the-other-is. It is present as something to be rendered present in the same way through the intervention of an operation. 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 a fashion. Things can be presented as absent, just as they can be presented as hard or soft, black or white, six inches or fifty rods away from the body. The assumption that an ideal content must be either totally absent, or else present *in just the same fashion* as it will be when it is realized, is not only dogmatic, but self-contradictory. The only way in which an ideal content can be experienced at all is to be presented as *not-present-in-the-same-way* in which something else is present, the latter kind of presence affording the standard or type of *satisfactory* presence. When present in the same way it ceases to be an ideal content. Not a contrast of bare existence over against non-existence, or of present consciousness over against reality out of present consciousness, but of a satisfactory with an unsatisfactory mode of presence makes the difference between the "really" and the "ideally," present.

In terms of our illustration, handling and enjoying the rose are present, but they are not present in the same way that the smell is present. They are present as *going* to be there in the same way, through an operation which the smell stands sponsor for. The situation is inherently an uneasy one—one in which everything hangs upon the performance of the operation indicated; upon the adequacy of movement as a connecting link, or real adjustment of the thing meaning and the thing meant. Generalizing from the instance, we get the following definition: An experience is a knowledge, if in its quale there is an experienced distinction and connection of two elements of the following sort: *one means or intends the presence of the other in the same fashion in which itself is already present, while the other is that which, while not present in the same fashion, must become so present if the meaning or intention of its companion or yoke-fellow is to be fulfilled through the operation it sets up.*

## II

We now return briefly to the question of knowledge as acquaintance, and at greater length to that of knowledge as assurance, or as fulfillment which confirms and validates. With the recurrence of the odor as meaning something beyond itself, there is apprehension, knowledge *that*. One

may now say I know what a *rose* smells like; or I know what *this* smell is like; I am acquainted with the rose's agreeable odor. In short, on the basis of a present quality, the odor anticipates and forestalls some further trait.

We have also the conditions of knowledge of the confirmation and refutation type. In the working out of the situation just described, in the transformation, self-indicated and self-demanded, of the tensional into a harmonious or satisfactory situation, fulfillment or disappointment results. The odor either does or does not fulfil itself in the rose. The smell as intention is borne out by the facts, or is nullified. As has already been pointed out, the subsequent experience of the fulfillment type is not primarily a confirmation or refutation. Its import is too vital, too urgent to be reduced *in itself* just to the value of testing an intention or meaning.<sup>6</sup> But it gets *in reflection* just such verificatory significance. If the smell's intention is unfulfilled, the discrepancy may throw one back, in reflection, upon the original situation. Interesting developments then occur. The smell meant a rose; and yet it did not (so it turns out) mean a rose; it meant another flower, or something, one can't just tell what. Clearly there is *something else* which enters in; something else beyond the odor as it was first experienced determined the validity of its meaning. Here then, perhaps, we have a transcendental, as distinct from an experimental reference? *Only if this something else makes no difference, or no detectable difference, in the smell itself.* If the utmost observation and reflection can find no difference in the smell quales that fail and those that succeed in executing their intentions, then there is an outside controlling and disturbing factor, which, since it is outside of the situation, can never be utilized in knowledge, and hence can never be employed in any concrete testing or verifying. In this case, knowing depends upon an extra-experimental or transcendental factor. But this very transcendental quality makes both confirmation and refutation, correction, criticism, of the pretensions or meanings of things, impossible. For the conceptions of truth and error, we must, upon the transcendental basis, substitute those of accidental success or

<sup>6</sup> Dr. Moore, in an essay in "Contributions to Logical Theory" has brought out clearly, on the basis of a criticism of the theory of meaning and fulfillment advanced in Royce's "World and Individual," the full consequences of this distinction. I quote one sentence (p. 350): "Surely there is a pretty discernible difference between experience as a purposive idea, and the experience which fulfils this purpose. To call them both 'ideas' is at least confusing." The text above simply adds that there is also a discernible and important difference between experiences which, *de facto*, are purposing and fulfilling (that is, are seen to be such *ab extra*), and those which meant to be such, and are found to be what they meant.

failure. Sometimes the intention chances upon one, sometimes upon another. Why or how, the gods only know—and they only if to them the extra-experimental factor is not extra-experimental, but makes a concrete difference in the concrete smell. But fortunately the situation is not one to be thus described. The factor that determines the success or failure, does institute a difference in the thing which means the object, and this difference is detectable, once attention, through failure, has been called to the need of its discovery. At the very least, it makes this difference: the smell is infected with an element of uncertainty of meaning—and this as a part of the thing experienced, not for an observer. This additional awareness at least brings about an additional wariness. Meaning is more critical, and operation more cautious.

But we need not stop here. Attention may be fully directed to the subject of smells. Smells may become the object of knowledge. They may take, *pro tempore*,<sup>7</sup> the place which the rose formerly occupied. One may, that is, observe the cases in which odors mean other things than just roses, may voluntarily produce new cases for the sake of further inspection, and thus account for the cases where meanings had been falsified in the issue; discriminate more carefully the peculiarities of those meanings which the event verified, and thus safeguard and bulwark to some extent the employing of similar meanings in the future. Superficially, it may then seem as if odors were treated after the fashion of Locke's simple ideas, or Hume's "distinct ideas which are separate existences." Smells apparently assume an independent, isolated status during this period of investigation. "Sensations," as the laboratory psychologist and the analytic psychologist generally study them, are examples of just such detached things. But egregious error results if we forget that this seeming isolation and detachment is the outcome of a deliberate scientific device—that it is simply a part of the scientific technique of an inquiry directed upon securing *tested* conclusions. Just and only because odors (or any group of qualities) are parts of a connected world are they signs of things beyond themselves; and only because they are signs is it profitable and necessary to study them *as if* they were complete, self-enclosed entities.

In the reflective determination of things with reference to their specifically meaning other things, experiences of fulfillment, disappearance

<sup>7</sup> The association of science and philosophy with leisure, with a certain economic surplus, is not accidental. It is practically worth while to postpone practice; to substitute theorizing, to develop a new and fascinating mode of practice. But it is the excess achievement of practice which makes this postponement and substitution possible.

pointment, and going astray inevitably play an important and recurrent rôle. They also are realistic facts, related in realistic ways to the things that intend to mean other things and to the things intended. When these fulfillments and refusals are reflected upon in the determinate relations in which they stand to their relevant meanings, they obtain a quality which is quite lacking to them in their immediate occurrence as just fulfillments or disappointments; viz., the property of affording assurance and correction—of confirming and refuting. Truth and falsity are not properties of any experience or thing, in and of itself or in its first intention; but of things where the problem of assurance consciously enters in. Truth and falsity present themselves as significant facts only in situations in which specific meanings and their already experienced fulfillments and non-fulfillments are intentionally compared and contrasted with reference to the question of the worth, as to reliability of meaning, of the given meaning or class of meanings. Like knowledge itself, truth is an experienced relation of things, and it has no meaning outside of such relation,<sup>8</sup> any more than such adjectives as comfortable applied to a lodging, correct applied to speech, persuasive applied to an orator, etc., have worth apart from the specific things to which they are applied. It would be a great gain for logic and epistemology, if we were always to translate the noun "truth" back into the adjective "true," and this back into the adverb "truly"; at least, if we were to do so until we have familiarized ourselves thoroughly with the fact that "truth" is an abstract noun, summarizing a quality presented by specific affairs in their own specific contents.

### III

I have attempted, in the foregoing pages, a description of the function of knowledge in its own terms and on its merits—a description which in intention is realistic, if by realistic we are content to mean naturalistic, a description undertaken on the basis of what Mr. Santayana has well called "following the lead of the subject-matter." Unfortunately at the present time all such undertakings contend with a serious extraneous obstacle. Accomplishing the undertaking has difficulties enough of its

<sup>8</sup> It is the failure to grasp the coupling of truth of meaning with a specific promise, undertaking, or intention expressed by a thing which underlies, so far as I can see, the criticisms passed upon the experimental or pragmatic view of the truth. It is the same failure which is responsible for the wholly *at large* view of truth which characterizes the absolutists.

own to reckon with; and first attempts are sure to be imperfect, if not radically wrong. But at present the attempts are not, for the most part, even listened to on their own account, they are not examined and criticised as naturalistic attempts. *They are compared with undertakings of a wholly different nature, with an epistemological theory of knowledge, and the assumptions of this extraneous theory are taken as a ready-made standard by which to test their validity.* Literally of course, "epistemology" means only theory of knowledge; the term *might* therefore have been employed simply as a synonym for a descriptive logic; for a theory that takes knowledge as it finds it and attempts to give the same kind of an account of it that would be given of any other natural function or occurrence. But the mere mention of what *might* have been only accentuates what is. The things that pass for epistemology all assume that knowledge is not a natural function or event, but a mystery.

Epistemology starts from the assumption that certain conditions lie back of knowledge. The mystery would be great enough if knowledge were constituted by non-natural conditions back of knowledge, but the mystery is increased by the fact that the conditions are defined so as to be incompatible with knowledge. Hence the primary problem of epistemology is: How is knowledge *überhaupt*, knowledge at large, possible? Because of the incompatibility between the concrete occurrence and function of knowledge and the conditions back of it which it must conform, a second problem arises: How is knowledge in general, knowledge *überhaupt*, valid? Hence the complete divorce in contemporary thought between epistemology as theory of knowledge and logic as an account of the specific ways in which particular beliefs that are better than other alternative beliefs regarding the same matters are formed; and also the complete divorce between a naturalistic, a biological and social psychology, setting forth how the function of knowledge is evolved out of other natural activities, and epistemology as an account of how knowledge is possible anyhow.

It is out of the question to set forth in this place in detail the contrast between transcendental epistemology and an experimental theory of knowledge. It may assist the understanding of the latter, however, if I point out, baldly and briefly, how, out of the *distinctively empirical situation*, there arise those assumptions which make knowledge a mystery, and hence a topic for a peculiar branch of philosophizing.

As just pointed out, epistemology makes the possibility of knowledge a problem, because it assumes back of knowledge conditions incompatible with the obvious traits of knowledge as it empirically exists. These

assumptions are that the organ or instrument of knowledge is not a natural object, but some ready-made state of mind or consciousness, something purely "subjective," a peculiar kind of existence which lives, moves, and has its being in a realm different from things to be known; and that the ultimate goal and content of knowledge is a fixed, ready-made thing which has no organic connections with the origin, purpose, and growth of the attempt to know it, some kind of *Ding-an-sich* or absolute, extra-empirical "Reality."

(1) It is not difficult to see at what point in the development of natural knowledge, or the signifying of one thing by another, there arises the notion of the knowing medium as something radically different in the order of existence from the thing to be known. It arises subsequent to the repeated experience of non-fulfilment, of frustration and disappointment. The odor did not after all mean the rose; it meant something quite different; and yet its indicative function was exercised so forcibly that we could not help—or at least *did* not help—believing in the existence of the rose. This is a familiar and typical kind of experience, one which very early leads to the recognition that "things are not what they seem." There are two contrasted methods of dealing with this recognition: one is the method indicated above. We go more thoroughly, patiently, and carefully into the facts of the case. We employ all sorts of methods, invented for the purpose, of examining the things that are signs and the things that are signified, and we experimentally produce various situations, in order that we may tell *what* smells mean roses *when* roses are meant, what it is about the smell and the rose that led us into error; and that we may be able to discriminate those cases in which a suspended conclusion is all that circumstances admit. We simply do the best we can to regulate our system of signs so that they become as instructive as possible, utilizing for this purpose (as indicated above) all possible experiences of success and of failure, and deliberately instituting cases which will throw light on the specific empirical causes of success and failure.

Now it so happens that when the facts of error were consciously generalized and formulated, namely in Greek thought, such a technique of specific inquiry and rectification did not exist—in fact, it hardly could come into existence until *after* error had been seized upon as constituting a fundamental anomaly. Hence the method just outlined of dealing with the situation was impossible. We can imagine disconsolate ghosts willing to postpone any professed solution of the difficulty till subsequent generations have thrown more light on the question itself; we can hardly imagine passionate human beings exercising such reserve.

At all events, Greek thought provided what seemed a satisfactory way out: there are two orders of existence, one permanent and complete, the noumenal region, to which alone the characteristic of Being is properly applicable, the other transitory, phenomenal, sensible, a region of non-Being, or at least of mere Coming-to-be, a region in which Being is hopelessly mixed with non-Being, with the unreal. The former alone is the domain of knowledge, of truth; the latter is the territory of opinion, confusion, and error. In short, the contrast *within* experience of the cases in which things successfully and unsuccessfully maintained and executed the meanings of other things was erected into a wholesale difference of status in the intrinsic characters of the things involved in the two types of cases.

With the beginnings of modern thought, the region of the "unreal," the source of opinion and error, was located exclusively in the individual. The object was *all* real and *all* satisfactory, but the "subject" could approach the object only through his own subjective states, his "sensations" and "ideas." The Greek conception of two orders of existence was retained, but instead of the two orders characterizing the "universe" itself, one *was* the universe, the other was the individual mind trying to know that universe. This scheme would obviously easily account for error and hallucination; but how could *knowledge*, truth, ever come about on such a basis? The Greek problem of the possibility of error became the modern problem of the possibility of knowledge.

Putting the matter in terms that are independent of history, experiences of failure, disappointment, non-fulfilment of the function of meaning and contention may lead the individual to the path of science—to more careful and extensive investigation of the things themselves, with a view to detecting specific sources of error, and guarding against them, and regulating, so far as possible, the conditions under which objects are bearers of meanings beyond themselves. But impatient of such slow and tentative methods (which insure not infallibility but increased probability of valid conclusions), by reason of disappointment a person may turn epistemologist. He may then take the discrepancy, the failure of the smell to execute its own intended meaning, as a wholesale, rather than as a specific fact: as evidence of a contrast in general between things meaning and things meant, instead of as evidence of the need of a more cautious and thorough inspection of odors and execution of operations indicated by them. One may then say: Woe is me; smells are only *my* smells, subjective states existing in an order of being made out of consciousness, while roses exist in

another order made out of a radically different sort of stuff; or, odors are made out of "finite" consciousness as their stuff, while the real things, the objects which fulfil them, are made out of an "infinite" consciousness as their material. Hence some purely metaphysical tie has to be called in to bring them into connection with each other. And yet this tie does not concern knowledge; it does not make the meaning of one odor any more correct than that of another, nor enable us to discriminate relative degrees of correctness. As a principle of control, this transcendental connection is related to all alike, and hence condemns and justifies all alike.<sup>9</sup>

It is interesting to note that the transcendentalist almost invariably first falls into the psychological fallacy; and then having himself taken the psychologist's attitude (the attitude which is interested in meanings as themselves self-inclosed "ideas") accuses the empiricist whom he criticises of having confused mere psychological existence with logical validity. That is, he begins by supposing that the smell of our illusion (and all the cognitional objects for which this is used as a symbol) is a purely mental or psychical state, so that the question of logical reference or intention is the problem of how the merely mental can "know" the extra-mental. But from a strictly empirical point of view, the smell which knows is no more merely mental than is the rose known. We may, if we please, say that the smell when involving conscious meaning or intention is "mental," but this term "mental" does not denote some separate type of existence—existence as a state of consciousness. It denotes only the fact that the smell, a real and non-psychical object, now exercises an intellectual *function*. This new property involves, as James has pointed out, an *additive* relation—a new

<sup>10</sup> The belief in the *metaphysical* transcendence of the object of knowledge seems to have its real origin in an *empirical* transcendence of a very specific and describable sort. The thing meaning is one thing; the thing meant is another thing, and is (as already pointed out) a thing presented as not given in the same way as is the thing which means. It is something *to be* so given. No amount of careful and thorough inspection of the indicating and signifying things can remove or annihilate this gap. The *probability* of correct meaning may be increased in varying degrees—and this is what we mean by control. But final certitude can never be reached except experimentally—except by performing the operations indicated and discovering whether or no the intended meaning is fulfilled in *propria persona*. In this experimental sense, truth or the object of any given meaning is always beyond or outside of the cognitional thing that means it. Error as well as truth is a necessary function of knowing. But the non-empirical account of this transcendent (or beyond) relationship puts *all* the error in one place (*our* knowledge), and *all* the truth in another (absolute consciousness or else a thing-in-itself).

property possessed by a non-mental object, when that object, occurring in a new context, assumes a further office and use.<sup>10</sup> To be "in the mind" means to be in a situation in which the function of intending is directly concerned.<sup>11</sup> Will not some one who believes that the knowing experience is *ab origine* a strictly "mental" thing, explain how, as matter of fact, it does get a specific, extra-mental reference, capable of being tested, confirmed, or refuted? Or, if he believes that viewing it as merely mental expresses only the form it takes for psychological analysis, will he not explain why he so persistently attributes the inherently "mental" characterization of it to the empiricist whom he criticizes? An object *becomes* meaning when used empirically in a certain way; and, under certain circumstances, the exact character and worth of this meaning *becomes* an object of solicitude. But the transcendental epistemologist with his purely psychical "meanings" and his purely extra-empirical "truths" assumes a *Deus ex Machina* whose mechanism is preserved a secret. And as if to add to the arbitrary character of his assumption, he has to admit that the transcendental *a priori* faculty by which mental states get objective reference does not in the least help us to discriminate, *in the concrete*, between an objective reference that is false and one that is valid.

(2) The counterpart assumption to that of pure aboriginal "mental states" is, of course, that of an Absolute Reality, fixed and complete in itself, of which our "mental states" are bare transitory hints, their true meaning and their transcendent goal being the Truth *in rerum natura*. If the organ and medium of knowing is a self-inclosed order of existence different in kind from the Object to be known, then that Object must stand out there in complete aloofness from the concrete purpose and procedure of knowing it. But if we go back to the knowing as a natural occurrence, capable of description, we find that just as a smell does not mean Rose in general (or anything else at large), but means a specific group of qualities whose experience is intended and anticipated, so the function of knowing is always expressed in connections between a given experience and a specific possible wanted experience. The "rose" that is meant in a particular situation is the rose of that situation. When this experience is consummated, it is achieved as the fulfilment of the conditions in which just *that* intention was entertained—not as the

<sup>10</sup> Compare his essay, "Does Consciousness Exist?" in the *Journal of Philosophy, Psychology, and Scientific Methods*, Vol. I., p. 480.

<sup>11</sup> Compare the essay on the "Problem of Consciousness," by Professor Woodbridge, in the Garman Memorial Volume, entitled "Studies in Philosophy and Psychology."

fulfilment of a faculty of knowledge or a meaning in general. Subsequent meanings and subsequent fulfillments may increase, may enrich the consummating experience; the object or content of the rose as known may be other and fuller next time and so on. But we have no right to set up "a rose" at large or in general as the object of the knowing odor; the object of a knowledge is always strictly correlative to that particular thing which means it. It is not something which can be put in a wholesale way over against that which cognitively refers to it, as when the epistemologist puts the "real" rose (object) over against a merely phenomenal or empirical rose which *this* smell happens to mean. As the meaning gets more complex, fuller, more finely discriminated, the object which realizes or fulfils the meaning grows similarly in quality. But we cannot set up a rose, an object of fullest, complete, and exhaustive content as that which is really meant by any and every odor of a rose, whether it consciously meant to mean it or not. The test of the cognitive rectitude of the odor lies in the *specific* object which it sets out to secure. This is the meaning of the statement that the import of *each* term is found in its relationship to the other. It applies to object meant as well as to the meaning. Fulfilment, completion are always relative terms. Hence the *criterion of the truth or falsity of the meaning, of the adequacy, of the cognitional thing lies within the relationships of the situation and not without*. The thing that means another by means of an intervening operation either succeeds or fails in accomplishing the operation indicated, while this operation either gives or fails to give the object meant. Hence the truth or falsity of the original cognitional object.

## IV

From this excursion, I return in conclusion to a brief general characterization of those situations in which we are aware that things mean other things and are so critically aware of it that, in order to increase the probability of fulfilment and to decrease the chance of frustration, all possible pains are taken to regulate the meanings that attach to things. These situations define that type of knowing which we call *scientific*. There are things that claim to mean other experiences; in which the trait of meaning other objects is not discovered *ab extra*, and after the event, but is part of the thing itself. This trait of the thing is as realistic, as specific, as any other of its traits. It is, therefore, as open to inspection and determination as to its nature, as is any other trait. Moreover, since

it is upon this trait that assurance (as distinct from accident) of fulfillment depends, an especial interest, an absorbing interest, attaches to its determination. Hence the scientific type of knowledge and its growing domination over other sorts.

We employ meanings in all intentional constructions of experience—in all anticipations, whether artistic, utilitarian or technological, social or moral. The success of the anticipation is found to depend upon the character of the meaning. Hence the stress upon a right determination of these meanings. Since they are the instruments upon which fulfillment depends *so far as that is controlled* or other than accidental, they become themselves objects of surpassing interest. For all persons at some times, and for one class of persons (scientists) at almost all times, the determination of the meanings employed in the control of fulfillments (of acting upon meanings) is central. The experimental or pragmatic theory of knowledge explains the dominating importance of science; it does not depreciate it or explain it away.

Possibly pragmatic writers are to blame for the tendency of their critics to assume that the practice they have in mind is utilitarian in some narrow sense, referring to some preconceived and inferior use—though I cannot recall any evidence for this admission. But what the pragmatic theory has in mind is precisely the fact that all the affairs of life which need regulation—all values of all types—depend upon utilizations of meanings. Action is not to be limited to anything less than the carrying out of ideas, than the execution, whether strenuous or easeful, of meanings. Hence the surpassing importance which comes to attach to the careful, impartial construction of the meanings, and to their constant survey and resurvey with reference to their value as evidenced by experiences of fulfillment and deviation.

That truth denotes *truths*, that is, specific verifications, combinations of meanings and outcomes reflectively viewed, is, one may say, the central point of the experimental theory. Truth, in general or in the abstract, is a just name for an experienced relation among the things of experience: that sort of relation in which intents are retrospectively viewed from the standpoint of the fulfillment which they secure through their own natural operation or incitement. Thus the experimental theory explains directly and simply the absolutistic tendency to translate concrete true things into the general relationship, Truth, and then to hypostatize this abstraction into identity with real being, Truth *per se* and *in se*, of which all transitory things and events—that is, all experienced realities—are only shadowy futile approximations. This type

of relationship is central for man's will, for man's conscious endeavor. To select, to conserve, to extend, to propagate those meanings which the course of events has generated, to note their peculiarities, to be in advance on the alert for them, to search for them anxiously, to substitute them for meanings that eat up our energy in vain, defines the aim of rational effort and the goal of legitimate ambition. The absolutistic theory is the transfer of this moral or voluntary law of selective action into a quasi-physical (that is, metaphysical) law of indiscriminate being. Identify metaphysical being with *significant excellent* being—that is, with those relationships of things which, in our moments of deepest insight and largest survey, we would continue and reproduce—and the experimentalist, rather than the absolutist, is he who has a right to proclaim the supremacy of Truth, and the superiority of the life devoted to Truth for its own sake over that of "mere" activity. But to read back into an order of things which exists without the participation of our reflection and aim, the quality which defines the purpose of our thought and endeavor is at one and the same stroke to mythologize reality and to deprive the life of thoughtful endeavor of its ground for being.

### 13. Experience and Objective Idealism\*

This essay is extremely telescoped in style, as witness the fact that some twenty years later Dewey devoted several hundred pages of *Experience and Nature* to an explication of the same themes. His fundamental concern is with the misleading presentation of the meaning of "experience" in the history of philosophy. Dewey believes that objective idealism owes its influence in great measure to its description of experiencing as a purely subjective human activity. Dewey denies this allegation and cites Locke, Peirce, and James to support his position. He points to a mediation between idealism seen as a process of "idealization" and an empiricism that acknowledges "the transitive character of experience" and "the possible control of the character of the transition by means of intelligent effort." Students who have found irreducible

\* From John Dewey, *The Influence of Darwin on Philosophy: And Other Essays in Contemporary Thought*, pp. 198-225. Copyright 1910 by Holt, Rinehart and Winston, Inc. Copyright 1938 by John Dewey. Reprinted by permission of Holt, Rinehart and Winston, Inc. (Originally published in 1906.)

strains of idealism in the development of pragmatism will find this essay a primary source for such a claim.

## I

Idealism as a philosophic system stands in such a delicate relation to experience as to invite attention. In its subjective form, or sensationalism, it claims to be the last word of empiricism. In its objective, or rational form, it claims to make good the deficiencies of the subjective type, by emphasizing the work of thought that supplies the factors of objectivity and universality lacking in sensationalism. With reference to experience *as it now is*, such idealism is half opposed to empiricism and half committed to it,—antagonistic, so far as existing experience is regarded as tainted with a sensational character; favorable, so far as this experience is even now prophetic of some final, all-comprehensive, or absolute experience, which in truth is one with reality.

That this combination of opposition to present experience with devotion to the cause of experience in the abstract leaves objective idealism in a position of unstable equilibrium from which it can find release only by euthanasia in a thorough-going empiricism seems evident. Some of the reasons for this belief may be readily approached by a summary sketch of three historic episodes in which have emerged important conceptions of experience and its relation to reason. The first takes us to classic Greek thought. Here experience means the preservation, through memory, of the net result of a multiplicity of particular doings and sufferings; a preservation that affords positive skill in maintaining further practice, and promise of success in new emergencies. The craft of the carpenter, the art of the physician are standing examples of its nature. It differs from instinct and blind routine or servile practice because there is some knowledge of materials, methods, and aims, in their adjustment to one another. Yet the marks of its passive, habitual origin are indelibly stamped upon it. On the knowledge side it can never aspire beyond opinion, and if true opinion be achieved, it is only by happy chance. On the active side it is limited to the accomplishment of a special work or a particular product, following some unjustified, because assumed, method. Thus it contrasts with the true knowledge of reason, which is direct apprehension, self-revealing and self-validating, of an eternal and harmonious content. The regions in which experience and reason respectively hold sway are thus explained. Experience has to do with production, which, in turn, is relative to decay. It deals with

generation, becoming, not with finality, being. Hence it is infected with the trait of relative non-being, of mere imitativeness; hence its multiplicity, its logical inadequacy, its relativity to a standard and end beyond itself. Reason, *per contra*, has to do with meaning, with significance (ideas, forms), that is eternal and ultimate. Since the meaning of anything is the worth, the good, the end of that thing, experience presents us with partial and tentative efforts to achieve the embodiment of purpose, under conditions that doom the attempt to inconclusiveness. It has, however, its meed of reality in the degree in which its results *participate* in meaning, the good, reason.

From this classic period, then, comes the antithesis of experience as the historically achieved *embodiments* of meaning, partial, multiple, insecure, to reason as the source, author, and container of *meaning*, permanent, assured, unified. Idealism means ideality, experience means brute and broken facts. That things exist because of and for the sake of meaning, and that experience gives us meaning in a servile, interrupted, and inherently deficient way—such is the standpoint. Experience gives us meaning in process of becoming; special and isolated instances in which it *happens*, temporally, to appear, rather than meaning pure, undefiled, independent. Experience presents purpose, the good, struggling against obstacles, "involved in matter."

Just how much the vogue of modern Neo-Kantian idealism, professedly built upon a strictly epistemological instead of upon a cosmological basis, is due, in days of a declining theology, to a vague sense that affirming the function of reason in the constitution of a knowable world (which in its own constitution as logically knowable may be, morally and spiritually, anything you please), carries with it an assurance of the superior reality of the good and the beautiful as well as of the "true," it would be hard to say. Certainly unction seems to have descended upon epistemology, in apostolic succession, from classic idealism; so that neo-Kantianism is rarely without a tone of edification, as if feeling itself the patron of man's spiritual interests in contrast to the supposed crudeness and insensitiveness of naturalism and empiricism. At all events, we find here one element in our problem: Experience considered as the summary of past episodic adventures and happenings in relation to fulfilled and adequately expressed meaning.

The second historic event centers about the controversy of innate ideas, or pure concepts. The issue is between empiricism and rationalism as theories of the origin and validation of scientific knowledge. The empiricist is he who feels that the chief obstacle which prevents scientific method from making way is the belief in pure thoughts, not

derived from particular observations and hence not responsible to the course of experience. His objection to the "high *a priori* road" is that it introduces in irresponsible fashion a mode of presumed knowledge which may be used at any turn to stand sponsor for mere tradition and prejudice, and thus to nullify the results of science resting upon and verified by observable facts. Experience thus comes to mean, to use the words of Peirce, "that which is forced upon a man's recognition will-he, nill-he, and shapes his thoughts to something quite different from what they naturally would have taken."<sup>1</sup> The same definition is found in James, in his chapter on Necessary Truths: "Experience means experience of something foreign supposed to impress us whether spontaneously or in consequence of our own exertions and acts."<sup>2</sup> As Peirce points out, this notion of experience as the foreign element that forces the hand of thought and controls its efficacy, goes back to Locke. Experience is "observation employed either about external sensible objects, or about the internal operations of our minds"<sup>3</sup> as furnishing in short all the valid data and tests of thinking and knowledge. This meaning, thinks Peirce, should be accepted "as a landmark which it would be a crime to disturb or displace."

The contention of idealism, here bound up with rationalism, is that perception and observation cannot guarantee knowledge in its honorific sense (science); that the peculiar differentia of scientific knowledge is a constancy, a universality, and necessity that contrast at every point with perceptual data, and that indispensably require the function of conception.<sup>4</sup> In short, *qualitative transformation of facts* (data of perception), not their mechanical subtraction and recombination, is the difference between scientific and perceptual knowledge. Here the problem which emerges is, of course, the significance of perception and of conception in respect to experience.<sup>5</sup>

The third episode reverses in a curious manner (which confuses pres-

<sup>1</sup> C. S. Peirce, *Monist*, Vol. XVI., p. 150.

<sup>2</sup> *Psychology*, Vol. II., p. 618.

<sup>3</sup> "Essay concerning Human Understanding," Book II, Chapter II, §2. Locke doubtless derived this notion from Bacon.

<sup>4</sup> It is hardly necessary to refer to the stress placed upon mathematics, as well as upon fundamental propositions in logic, ethics, and cosmology.

<sup>5</sup> Of course there are internal historic connections between experience as effective "memory," and experience as "observation." But the motivation and stress, the problem, has quite shifted. It may be remarked that Hobbes still writes under the influence of the Aristotelian conception. "Experience is nothing but Memory" ("Elements of Philosophy," Part I, Chapter I, §2), and hence is opposed to science.

ent discussion) the notion of experience as a foreign, alien, coercive material. It regards experience as a fortuitous association, by merely psychic connections, of individualistic states of consciousness. This is due to the Humian development of Locke. The "objects" and "operations," which to Locke were just given and secured in observation, become shifting complexes of subjective sensations and ideas, whose apparent permanency is due to discoverable illusions. This, of course, is the empiricism which made Kant so uneasily toss in his dogmatic slumbers (a tossing that he took for an awakening); and which, by reaction, called out the conception of thought as a function operating both to elevate perceptual data to scientific status, and also to confer objective status, or knowable character, upon even sensational data and their associative combinations.<sup>6</sup> Here emerges the third element in our problem: The function of thought as furnishing objectivity to any experience that claims cognitive reference or capacity.

Summing up the matter, idealism stands forth with its assertion of thought or reason as (1) the sponsor for all significance, ideality, purpose, in experience,—the author of the good and the beautiful as well as the true; (2) the power, located in pure conceptions, required to elevate perceptive or observational material to the plane of science; and (3) the constitution that gives objectivity, even the semblance of order, system, connection, mutual reference, to sensory data that without its assistance are mere subjective flux.

<sup>6</sup> There are, of course, anticipations of Hume in Locke. But to regard Lockean experience as equivalent to Humian is to pervert history. Locke, as he was to himself and to the century succeeding him, was not a subjectivist, but in the main a common sense objectivist. It was this that gave him his historic influence. But so completely has the Hume-Kant controversy dominated recent thinking that it is constantly projected backward. Within a few weeks I have seen three articles, all insisting that the meaning of the term experience must be subjective, and stating or implying that those who take the term objectively are subverters of established usage! But a casual study of the dictionary will reveal that experience has always meant "what is experienced," observation as a source of knowledge, as well as the act, fact, or mode of experiencing. In the Oxford Dictionary, the (obsolete) sense of "experimental testing," of actual "observation of facts and events," and "the fact of being consciously affected by an act" have almost contemporaneous datings, viz., 1384, 1377, and 1382 respectively. A usage almost more objective than the second, the Baconian use, is "what has been experienced; the events that have taken place within the knowledge of an individual, a community, mankind at large, either during a particular period or generally." This dates back to 1607. Let us have no more captious criticisms and complaints based on ignorance of linguistic usage. [This pious wish has not been met. J. D., 1909.]

## II

I begin the discussion with the last-named function. Thought is here conceived as *a priori*, not in the sense of particular innate ideas, but of a function that constitutes the very possibility of any objective experience, any experience involving reference beyond its own mere subjective happening. I shall try to show that idealism is condemned to move back and forth between two inconsistent interpretations of this *a priori* thought. It is taken to mean both the organized, the regulated, the informed, established character of experience, an order immanent and constitutional; and an agency which organizes, regulates, forms, synthesizes, a power operative and constructive. And the oscillation between and confusion of these two diverse senses is necessary to Neokantian idealism.

When Kant compared his work in philosophy to that of the men who introduced construction into geometry, and experimentation into physics and chemistry, the point of his remarks depends upon taking the *a priori* worth of thought in a regulative, directive, controlling sense, thought as consciously, intentionally, making an experience *different* in a *determinate* sense and manner. But the point of his answer to Hume consists in taking the *a priori* in the other sense, as something which is *already* immanent in *any* experience, and which accordingly makes no determinate difference to any one experience as compared with any other, or with any past or future form of itself. The concept is treated first as that which makes an experience actually different, controlling its evolution towards consistency, coherency, and objective reliability; then, it is treated as that which has already effected the organization of any and every experience that comes to recognition at all. The fallacy from which he never emerges consists in vibrating between the definition of a concept as a rule of constructive synthesis in a *differential* sense, and the definition of it as a static endowment lurking in "mind," and giving automatically a hard and fixed law for the determination of every experienced object. The *a priori* conceptions of Kant as immanent fall, like the rain, upon the just and the unjust; upon error, opinion, and hallucination. But Kant slides into these *a priori* functions the preferential values exercised by empirical reflective thought. The concept of triangle, taken geometrically, means doubtless a determinate method of construing space elements; but to Kant it also means something that exists in the mind *prior* to all such geometrical constructions and that unconsciously lays down the law not only for their conscious elaboration, but also for any space perception, even for that which takes a rectangle

to be a triangle. The first of the meanings is intelligible, and marks a definite contribution to the logic of science. But it is not "objective idealism"; it is a contribution to a revised empiricism. The second is a dark saying.

That organization of some sort exists in every experience I make no doubt. That isolation, discrepancy, the fragmentary, the incompatible, are brought to recognition and to logical function only with reference to some prior existential mode of organization seems clear. And it seems equally clear that reflection goes on with profit only because the materials with which it deals have already some degree of organization, or exemplify various relationships. As against Hume, or even Locke, we may be duly grateful to Kant for enforcing acknowledgment of these facts. But the acknowledgment means simply an improved and revised empiricism.

For, be it noted, this organization, first, is not the work of reason or thought, unless "reason" be stretched beyond all identification; and, secondly, it has no sacrosanct or finally valid and worthwhile character. (1) Experience always carries with it and within it certain systematized arrangements, certain classifications (using the term without intellectualistic prejudice), coexistent and serial. If we attribute these to "thought" then the structure of the brain of a Mozart which hears and combines sounds in certain groupings, the psycho-physical visual habit of the Greek, the locomotor apparatus of the human body in the laying-out and plotting of space is "thought." Social institutions, established political customs, effect and perpetuate modes of reaction and of perception that compel a certain grouping of objects, elements, and values. A national constitution brings about a definite arrangement of the factors of human action which holds even physical things together in certain determinate orders. Every successful economic process, with its elaborate divisions and adjustments of labor, of materials and instruments, is just such an objective organization. Now it is one thing to say that thought has played a part in the origin and development of such organizations, and continues to have a rôle in their judicious employment and application; it is another to say that these organizations *are* thought, or are its exclusive product. Thought that functions in these ways is distinctively *reflective* thought, thought as practical, volitional, deliberately exercised for specific aims—thought as an act, an art of skilled mediation. As *reflective* thought, its end is to terminate its own first and experimental forms, and to secure an organization which, while it may evoke new reflective thinking, puts an end to the thinking that secured the organization. As *organizations*, as established, ef-

fectively controlling arrangements of objects in experience, their mark is that they are not thoughts, but habits, customs of action.<sup>7</sup>

Moreover, such reflective thought as does intervene in the formation and maintenance of these practical organizations harks back to prior practical organizations, biological and social in nature. It serves to *valuate* organizations already existent as biological functions and instincts, while, as itself a biological activity, it redirects them to new conditions and results. Recognize, for example, that a geometric concept is a practical locomotor function of arranging stimuli in reference to maintenance of life activities *brought into consciousness*, and then serving as a center of reorganization of such activities to freer, more varied flexible and valuable forms; recognize this, and we have the truth of the Kantian idea, without its excrescences and miracles. The concept is the practical activity doing consciously and artfully what it had aforesaid done blindly and aimlessly, and thereby not only doing it better but opening up a freer world of significant activities. Thought as such a reorganization of natural functions does naturally what Kantian forms and schematizations do only supernaturally. In a word, the constructive or organizing activity of "thought" does not inhere in thought as a transcendental function, a form or mode of some supra-empirical ego, mind, or consciousness, but in thought as itself vital activity. And in any case we have passed to the idea of thought as reflectively reconstructive and directive, and away from the notion of thought as immanently constitutional and organizational. To make this passage and yet to ignore its existence and import is essential to objective idealism.

(2) No final or ultimate validity attaches to these original arrangements and institutionalizations in any case. Their value is teleological and experimental, not fixedly ontological. "Law and order" are good things, but not when they become rigidity, and create mechanical uniformity or routine. Prejudice is the acme of the *a priori*. Of the *a priori* in this sense we may say what is always to be said of habits and institutions: They are good servants, but harsh and futile masters. Organization as already effected is always in danger of becoming a *mortmain*; it may be a way of sacrificing novelty, flexibility, freedom, creation to static standards. The curious inefficiency of idealism at this point is evident in the fact that genuine thought, empirical reflective

<sup>7</sup> The relationship of organization and thought is precisely that which we find psychologically typified by the rhythmic functions of habit and attention, attention being always, *ab quo*, a sign of the failure of habit, and, *ad quem*, a reconstructive modification of habit.

thought, is required precisely for the purpose of re-forming established and set formations.

In short, (a) *a priori* character is no exclusive function of thought. Every biological function, every motor attitude, every vital impulse as the carrying vehicle of experience is thus *a priori*ly regulative in prospective reference; what we call apperception, expectation, anticipation, desire, demand, choice, are pregnant with this constitutive and organizing power. (b) In so far as "thought" does exercise such reorganizing power, it is because thought is itself still a *vital* function. (c) Objective idealism depends not only upon ignoring the existence and capacity of vital functions, but upon a profound confusion of the constitutional *a priori*, the unconsciously dominant, with empirically reflective thought. In the sense in which the *a priori* is worth while as an attribute of thought, thought cannot be what the objective idealist defines it as being. Plain, ordinary, everyday empirical reflections, operating as centers of inquiry, of suggestion, of experimentation, exercise the valuable function of regulation, in an auspicious direction, of subsequent experiences.

The categories of accomplished systematization cover alike the just and the unjust, the false and the true, while (unlike God's rain) they exercise no *specific* or *differential* activity of stimulation and control. Error and inefficiency, as well as value and energy, are embodied in our objective institutional classifications. As a special favor, will not the objective idealist show how, in some one single instance, his immanent "reason" makes any difference as respects the detection and elimination of error, or gives even the slightest assistance in discovering and validating the truly worthwhile? This practical work, the life blood of intelligence in everyday life and in critical science, is done by the despised and rejected matter of concrete empirical contexts and functions. Generalizing the issue: If the immanent organization be ascribed to thought, why should its work be such as to demand continuous correction and revision? If specific reflective thought, as empirical, be subject to all the limitations supposed to inhere in experience as such, how can it assume the burden of making good, of supplementing, reconstructing, and developing meanings? The logic of the case seems to be that Neo-Kantian idealism gets its status against empiricism by first accepting the Humian idea of experience, while the express import of its positive contribution is to show the *non-existence* (not merely the cognitive invalidity) of anything describable as mere states of subjective consciousness. Thus in the end it tends to destroy itself and to make way for a more adequate empiricism.

## III

In the above discussion, I have unavoidably anticipated the second problem: the relation of conceptual thought to perceptual data. A distinct aspect still remains, however. Perception, as well as apriority, is a term harboring a fundamental ambiguity. It may mean (1) a distinct type of activity, predominantly practical in character, though carrying at its heart important cognitive and esthetic qualities; or (2) a distinctively cognitional experience, the function of observation as explicitly logical—a factor in science *qua* science.

In the first sense, as recent functional empiricism (working in harmony with psychology, but not itself peculiarly psychological) has abundantly shown, perception is primarily an act of adjustment of organism and environment, differing from a mere reflex or instinctive adaptation in that, in order to compensate for the failure of the instinctive adjustment, it requires an objective or discriminative presentation of conditions of action: the negative conditions or obstacles, and the positive conditions or means and resources.<sup>8</sup> This, of course, is its cognitive phase. In so far as the material thus presented not only serves as a direct cue to further successful activity (successful in the overcoming of obstacles to the maintenance of the function entered upon) but presents auxiliary collateral objects and qualities that give additional range and depth of meaning to the activity of adjustment, perceiving is esthetic as well as intellectual.<sup>9</sup>

Now such perception cannot be made antithetical to thought, for it may itself be surcharged with any amount of imaginatively supplied and reflectively sustained ideal factors—such as are needed to determine and select relevant stimuli and to suggest and develop an appropriate plan and course of behavior. The amount of such saturating intellectual material depends upon the complexity and maturity of the behaving agent. Such perception, moreover, is strictly teleological, since it arises from an experienced need and functions to fulfil the purpose indicated by this need. The cognitional content is, indeed, carried by affectual and intentional contexts.

<sup>8</sup> Compare, for example, Dr. Stuart's paper in the "Studies in Logical Theory," pp. 253-256. I may here remark that I remain totally unable to see how the interpretation of objectivity to mean controlling conditions of action (negative and positive as above) derogates at all from its naive objectivity, or how it connotes cognitive subjectivity, or is in any way incompatible with a common-sense realistic theory of perception.

<sup>9</sup> For this suggested interpretation of the esthetic as surprising, or unintended, gratuitous collateral reinforcement, see Gordon, "Psychology of Meaning."

Then we have perception as scientific observation. This involves the deliberate, artful exclusion of affectional and purposive factors as exercising mayhap a vitiating influence upon the cognitive or objective content; or, more strictly speaking, a transformation of the more ordinary or "natural" emotional and purposive concomitants, into what Bain calls "neutral" emotion, and a purpose of finding out what the present conditions of the problem are. (The practical feature is not thus denied or eliminated, but the overweening influence of a present dominating end is avoided, so that *change of the character of the end* may be effected, if found desirable.) Here observation may be opposed to thought, in the sense that exact and minute description may be set over against interpretation, explanation, theorizing, and inference. In the wider sense of thought as equaling reflective process, the work of observation and description forms a constituent division of labor *within* thought. The impersonal demarcation and accurate registration of what is objectively there or present occurs for the sake (a) of eliminating meaning which is habitually but uncritically referred, and (b) of getting a basis for a meaning (at first purely inferential or hypothetical) that may be consistently referred; and that (c), resting upon examination and not upon mere *a priori* custom, may weather the strain of subsequent experiences. But in so far as thought is identified with the conceptual phase as such of the entire logical function, observation is, of course, set over against thought: deliberately, purposely, and artfully so.

It is not uncommon to hear it said that the Lockean movement was all well enough for psychology, but went astray because it invaded the field of logic. If we mean by psychology a natural history of what at any time passes for knowledge, and by logic conscious control in the direction of grounded assurance, this remark appears to reverse the truth. As a natural history of knowledge in the sense of opinion and belief, Locke's account of discrete, simple ideas or meanings, which are compounded and then distributed, does palpable violence to the facts. But every line of Locke shows that he was interested in knowledge in its honorific sense—controlled certainty, or, where this is not feasible, measured probability. And to logic as an account of the way in which we by art build up a *tested* assurance, a rationalized conviction, Locke makes an important positive contribution. The pity is that he inclined to take it for the whole of the logic of science,<sup>10</sup> not seeing that it was but a correlative division of labor to the work of hypotheses or inference; and that he

<sup>10</sup> This, however, is not strictly true, since Locke goes far to supply the means of his own correction in his account of the "workmanship of the understanding."

tended to identify it with a natural history or psychology. The latter tendency exposed Locke to the Humian interpretation, and permanently sidetracked the positive contribution of his theory to logic, while it led to that confusion of an untrue psychology with a logic valid within limits, of which Mill is the standard example.

In analytic observation, it is a positive object to strip off all inferential meaning so far as may be—to reduce the facts as nearly as may be to derationalized data, in order to make possible a new and better rationalization. In and because of this process, the perceptual data approach the limit of a disconnected manifold, of the brutally given, of the merely sensibly present; while meaning stands out as a searched-for principle of unification and explanation, that is, as a thought, a concept, an hypothesis. The extent to which this is carried depends wholly upon the character of the specific situation and problem; but, speaking generally, or of limiting tendencies, one may say it is carried to mere observation, pure brute description, on the one side, and to mere thought, that is hypothetical inference, on the other.

So far as Locke ignored this instrumental character of observation, he naturally evoked and strengthened rationalistic idealism; he called forth its assertion of the need of reason, of concepts, of universals, to constitute knowledge in its eulogistic sense. But two contrary errors do not make a truth, although they suggest and determine the nature of some relevant truth. This truth is the empirical origin, in a determinate type of situation, of the contrast of observation and conception, the empirical relevancy and the empirical worth of this contrast in controlling the character of subsequent experiences. To suppose that perception as it concretely exists, either in the early experiences of the animal, the race, or the individual, or in its later refined and expanded experiences, is identical with the sharply analyzed, objectively discriminated and internally disintegrated elements of scientific observation, is a perversion of experience; a perversion for which, indeed, professed empiricists set the example, but which idealism must perpetuate if it is not to find its end in an improved, functional empiricism.<sup>11</sup>

<sup>11</sup> Plato, especially in his "Theaetetus," seems to have begun the procedure of blasting the good name of perceptive experience by identifying a late and instrumental distinction, having to do with logical control, with all experience whatsoever.

## IV

We come now to the consideration of the third element in our problem; identity, important and normative value, in relation to experience; the antithesis of experience as a tentative, fragmentary, and ineffectual embodiment of meaning over against the perfect, eternal system of meanings which experience suggests even in nullifying and mutilating.

That from the *memory* standpoint experience presents itself as a multiplicity of episodic events with just enough continuity among them to suggest principles true "on the whole" or usually, but without furnishing instruction as to their exact range and bearing, seems obvious enough. Why should it not? The motive which leads to reflection on *past* experience could be satisfied in no other way. Continuities, connecting links, dynamic transitions drop out because, for the purpose of the recollection, they would be hindrances if now repeated; or because they are now available only when themselves objectified in definite terms and thus given a *quasi* atomistic standing of their own. This is the only alternative to what the psychologists term "total reminiscence," which, so far as total, leave us with an elephant on our hands. Unless we are going to have a wholesale revivification of the past, giving us just another embarrassing present experience, illusory because irrelevant, memory must work by retail—by summoning *distinct* cases, events, sequences, precedents. Dis-membling is a positively necessary part of re-membering. But the resulting *disjecta membra* are in no sense experience as it was or is; they are simply elements held apart, and yet tentatively implicated together, in present experience for the sake of its most favorable evolution; evolution in the direction of the most excellent meaning or value conceived. If the remembering is efficacious and pertinent, it reveals the possibilities of the present; that is to say, it clarifies the transitive, transforming character that belongs inherently to the present. The dismembering of the vital present into the disconnected past is correlative to an anticipation, an idealization of the future.

Moreover, the contingent character of the principle or rule that emerges from a survey of cases, instances, as distinct from a fixed or necessary character, secures just what is wanted in the exigency of a prospective idealization, or refinement of excellence. It is just this character that secures flexibility and variety of outlook, that makes possible a consideration of alternatives and an attempt to select and to

or an Absolute Reason. Did purpose ride in a cosmic automobile toward a predestined goal, it would not cease to be physical and mechanical in quality because labeled Divine Idea, or Perfect Reason. The moral would be "let us eat, drink, and be merry," for to-morrow—or if not this to-morrow, then upon some to-morrow, unaffected by our empirical memories, reflections, inventions, and idealizations—the cosmic automobile arrives. Spirituality, ideality, meaning as purpose, would be the last things to present themselves if objective idealism were true. Values cannot be both ideal and given, and their "given" character is emphasized, not transformed, when they are called eternal and absolute. But natural values become ideal the moment their maintenance is dependent upon the intentional activities of an empirical agent. To suppose that values are ideal because they are so eternally given is the contradiction in which objective idealism has entrenched itself. Objective ontological teleology spells machinery. Reflective and volitional, experimental teleology alone spells ideality.<sup>13</sup> Objective, rationalistic idealism breaks upon the fact that it can have no intermediary between a brutally achieved embodiment of meaning (physical in character or else of that peculiar quasi-physical character which goes generally by the name of metaphysical) and a total opposition of the given and the ideal, connoting their mutual indifference and incapacity. An empiricism that acknowledges the transitive character of experience, and that acknowledges the possible control of the character of the transition by means of intelligent effort, has abundant opportunity to celebrate in productive art, genial morals, and impartial inquiry the grace and the severity of the ideal.

#### 14. The Practical Character of Reality\*

In 1908, one year after the publication of *Pragmatism* by William James, John Dewey published the original version of this essay under the title "Does Reality Possess Practical Character?" In part, this essay was a defense of pragmatism, then defined tentatively by Dewey as "the doctrine that

<sup>13</sup> One of the not least of the many merits of Santayana's "Life of Reason" is the consistency and vigor with which is upheld the doctrine that significant idealism means idealization.

\* From John Dewey, *Philosophy and Civilization* (New York, Capricorn Books, 1963) (1931), pp. 36-55. Reprinted by permission of G. P. Putnam's Sons. (Published originally as "Does Reality Possess Practical Character?" in 1908.)

execute the more worthy among them. The fixed or necessary law would mean a future like the past—a dead, an idealized future. It is exasperating to imagine how completely different would have been Aristotle's valuation of "experience" with respect to its contingency, if he had but once employed the function of developing and perfecting value, instead of the function of knowing an unalterable object, as the standard by which to estimate and measure intelligence.

The one constant trait of experience from its crudest to its most mature forms is that its contents undergo change of meaning, and of meaning in the sense of excellence, value. Every experience is in course,<sup>12</sup> in course of becoming worse or better as to its contents, or in course of conscious endeavor to sustain some satisfactory level of value against encroachment or lapse. In this effort, both precedent, the reduction of the present idealization, the anticipation of the possible, though doubtful, future, emerge. Without idealization, that is, without conception of the favorable issue that the present, defined in terms of precedents, may portend in its transition, the recollection of precedents, and the formulation of tentative rules is nonsense. But without the identification of the present in terms of elements suggested by the past, without recognition, the ideal, the value projected as end, remains inert, helpless, sentimental, without means of realization. Resembling cases and anticipation, memory and idealization, are the corresponding terms in which a present experience has its transitive force analyzed into reciprocally pertinent means and ends.

That an experience will change in content and value is the one thing certain. *How* it will change is the one thing naturally uncertain. Hence the import of the art of reflection and invention. Control of the character of the change in the direction of the worthwhile is the common business of theory and practice. Here is the province of the episodic recollection of past history and of the idealized foresight of possibilities. The irrelevancy of an objective idealism lies in the fact that it totally ignores the position and function of ideality in sustained and serious endeavor. Were values automatically injected and kept in the world of experience by any force not reflected in human memories and projects, it would make no difference whether this force were a Spencerian environment

<sup>12</sup> Compare James, "Continuous transition is one sort of conjunctive relation; and to be a radical empiricist means to hold fast to this conjunctive relation of all others, for this is the strategic point, the position through which, if a hole be made, all the corruptions of dialectics and all the metaphysical fictions pour into our philosophy."—*Journal of Philosophy, Psychology, and Scientific Methods*, Vol. I, p. 536.

reality possess practical character and that this character is most efficaciously expressed in the function of intelligence. . . ." But Dewey was concerned also with the heightening of his attack on traditional epistemology, which he judged to be suffering from "intellectual lock-jaw." From Dewey's point of view, the process of knowing is not simply a way to guide us to an already existing "final term." To the contrary, it is the changes generated by our inquiry which should occupy our attention, although these changes are neither "total" nor "miraculous." Dewey states the mediating ground of pragmatic epistemology as follows: "Transformation, readjustment, reconstruction, all imply prior existences; existences which have characters and behavior of their own which must be accepted, consulted, humored, manipulated, or made light of, in all kinds of differing ways in the different contexts of different problems." And in a rhetorical conclusion, Dewey challenges philosophy to assume the risks and instability involved in devoting itself to these shifts in context, rather than to an abstract delineation of "prior existences."

## I

Recently I have had an experience which, insignificant in itself, seems to mean something as an index-figure of the present philosophic situation. In a criticism of the neo-Kantian conception that *a priori* functions of thought are necessary to constitute knowledge, it became relevant to deny its underlying postulates: viz., the existence of anything properly called mental states or subjective impressions precedent to all objective recognitions, and which accordingly needed some transcendental function to order them into a world of stable and consistent reference. It was argued that such so-called original mental data are in truth turning points of the readjustment, or making over, through a state of incompatibility and shock, of objective affairs. This doctrine was met by the cry of "Subjectivism!" It had seemed to its author to be a criticism, on ground at once naturalistic and ethical, of the ground proposition of subjectivism. Why this diversity of interpretations? So far as the writer can judge, it is due to the fact that certain things characteristic of practical life, such things as lack and need, conflict and clash, desire and effort, loss and satisfaction, had been frankly referred to reality; and to the further fact that the function and structure of know-

ing had been systematically connected with these practical features. These conceptions are doubtless radical enough; the latter was perhaps more or less revolutionary. The probability, the antecedent probability, was that hostile critics would have easy work in pointing out specific errors of fact and interpretation. But no: the simpler, the more effective method, was to dismiss the whole thing as anarchic subjectivism.

This was and remains food for thought. I have been able to find but one explanation: In current philosophy, everything of a practical nature is regarded as "merely" personal, and the "merely" has the force of denying legitimate standing in the court of cosmic jurisdiction. This conception seems to me the great and the ignored assumption in contemporary philosophy; many who might shrink from the doctrine were it expressly formulated hang desperately to its implications. Yet as an underlying assumption, it is surely sheer prejudice, a culture-survival. If we suppose the traditions of philosophic discussion wiped out and philosophy starting afresh from the most active tendencies of today,—those striving in social life, in science, in literature, and art,—one can hardly imagine any philosophic view springing up and gaining credence, which did not give large place, in its scheme of things, to the practical and personal, and to them without employing disparaging terms, such as phenomenal, merely subjective, and so on. Why, putting it mildly, should what gives tragedy, comedy, and poignancy to life, be excluded from things? Doubtless, what we call life, what we take to be genuinely vital, is not all of things. But it is a part of things; and is that part which counts most with the philosopher—unless he has quite parted with his ancient dignity of lover of wisdom. What becomes of philosophy as far as humane and liberal interests are concerned, if, in an age when the person and the personal loom large in politics, industry, religion, art, and science, it contents itself with this parrot cry of phenomenalism, whenever the personal comes into view? When science is led by the idea of evolution to introduce into the world the principles of initiative, variation, struggle, and selection; and when social forces have driven into bankruptcy absolutistic and static dogmas as authorities for the conduct of life, it is trifling for philosophy to decline to look the situation in the face. The relegation, as matter of course, of need, of stress and strain, strife and satisfaction, to the merely personal and the merely personal to the limbo of something which is neither flesh, fowl, nor good red herring, seems the thoughtless rehearsal of ancestral prejudice.

When we get beyond the echoing of tradition, the sticking point seems to be the relation of knowledge to the practical function of things. Let

reality be in itself as "practical" as you please, but let not this practical character lay profane hands on the ark of truth! Every new mode of interpreting life—every new gospel—is met with the charge of anti-nomianism. Imagination when bound by custom apprehends the restrictions that are relaxed and the checks that are removed, but not the inevitable responsibilities and tests that the new idea brings in. And so the conception that knowledge makes a difference in and to things looks licentious to those who fail to see that the necessity of doing this business well, of making the *right* difference, puts intelligence under bonds it never yet has known: most of all in philosophy, the most gayly irresponsible of the procedures, and the most irresponsively sullen, of the historic fruits of intelligence.

Why should the idea that knowledge makes a difference to and in things be antecedently objectionable? If one is already committed to a belief that Reality is neatly and finally tied up in a packet without loose ends, unfinished issues or new departures, one would object to knowledge making a difference just as one would object to any other impertinent intruder. But if one believes that the world itself is in transformation, why should the notion that knowledge is the most important mode of its modification and the only organ of its guidance be *a priori* obnoxious?

There is, I think, no answer save that the theory of knowledge has been systematically built up on the notion of a static universe, so that even those perfectly free to feel the lessons of physics and biology concerning moving energy and evolution, and of history concerning the constant transformation of man's affairs (science included), retain an unquestioning belief in a theory of knowledge which is out of any possible harmony with their own theory of the matters to be known. Modern epistemology, having created the idea that the way to frame right conceptions is to analyze knowledge, has strengthened this view. For it at once leads to the view that realities must themselves have a theoretic and intellectual complexion—not a practical one. This view is naturally congenial to idealists; but that realists should so readily play into the hands of idealists by asserting what, on the basis of a formal theory of knowledge, realities must be, instead of accepting the guidance of things in divining what knowledge *is*, is an anomaly so striking as to support the view that the notion of static reality has taken its last stand in ideas about knowledge. Take, for example, the most striking, because the extreme case—knowledge of a past event. It is absurd to suppose that knowledge makes a difference to the final or appropriate content of

knowledge: to the subject-matter which fulfils the requirements of knowing. In this case, it would get in its own way and trip itself up in endless regress. But it seems the very superposition of intellectualism to suppose that this fact about knowledge can decide what is the nature of that reference to the past which, when rightly made, is final. No doctrine about knowledge can hinder the belief—if there be sufficient specific evidence for it—that what we know as past may be something which has *irretrievably* undergone just the difference which knowledge makes.

Now arguments against pragmatism—by which I mean the doctrine that reality possesses practical character and that this character is most efficaciously expressed in the function of intelligence<sup>1</sup>—seem to fall blandly into this fallacy. They assume that to hold that knowledge makes a difference in existences is equivalent to holding that it makes a difference in the object *to be* known, thus defeating its own purpose; witness that the reality which is the appropriate object of knowledge in a given case may be precisely a reality in which knowing has succeeded in making the needed difference. This question is not one to be settled by manipulation of the concept of knowledge, nor by dialectic discussion of its essence or nature. It is a question of facts, a question of what knowing exists as in the scheme of existence. If things undergo change without thereby ceasing to be real, there can be no *formal* bar to knowing being one specific kind of change in things, nor to its test being found in the successful carrying into effect of the kind of change intended. If knowing be a change in a reality, then the more knowing reveals this change, the more transparent, the more adequate, it is. And if all existences are in transition, then the knowledge which treats them as if they were something of which knowledge is a kodak fixation is just the kind of knowledge which refracts and perverts them. And by the same token a knowing which actively participates in a change in the way to effect it in the needed fashion would be the type of knowing which is valid. If reality be itself in transition—and this doctrine originated not with the objectionable pragmatist but with the physicist and naturalist and historian—then the doctrine that knowledge *is* reality making a par-

<sup>1</sup> This definition, in the present state of discussion, is an arbitrary or personal one. The text does not mean that "pragmatism" is currently used exclusively in this sense; obviously there are other senses. It does not mean it is the sense in which it *ought* to be used. I have no wish to legislate either for language or for philosophy. But it marks the sense in which *is* is used in this paper; and the pragmatic movement is still so loose and variable that I judge one has a right to fix his own meaning, provided he serves notice and adheres to it.

ticular and specified sort of change in itself seems to have the best chance at maintaining a theory of knowing which is in wholesome touch with the genuine and valid.

## II

If the ground be cleared of *a priori* objections, and if it be evident that pragmatism cannot be disposed of by any formal or dialectic manipulations of "knowledge" or "truth," but only by showing that some specific things are not of the sort claimed, we may consider some common sense affiliations of pragmatism. Common sense regards intelligence as having a purpose, and knowledge as amounting to something. I once heard a physicist, quite innocent of the pragmatic controversy, remark that the knowledge of a mechanic or farmer was what the Yankee calls gumption—acknowledgment of things in their belongings and uses, and that to his mind natural science was gumption on a larger scale: the convenient cataloguing and arranging of a whole lot of things with reference to their most efficacious services. Popularly, good judgment is judgment as to the relative values of things: good sense is horse sense, ability to take hold of things right end up, to fit an instrument to an obstacle, to select resources apt for a task. To be reasonable is to recognize things in their office as obstacles and as resources. Intelligence, in its ordinary use, is a practical term; ability to size up matters with respect to the needs and possibilities of the various situations in which one is called to do something; capacity to envisage things in terms of the adjustments and adaptations they make possible or hinder. One objective test of the presence or absence of intelligence is influence upon behavior. No capacity to make adjustments means no intelligence; conduct evincing management of complex and novel conditions means a high degree of reason. Such conditions at least suggest that a reality-to-be-known, a reality which is the appropriate subject-matter of knowledge is reality-of-use-and-in-use, direct or indirect, and that a reality which is not in any sort of use, or bearing upon use, may go hang, *so far as knowledge is concerned*.

No one, I suppose, would deny that knowledge *issues* in some action which changes things to some extent—be the action only a more deliberate maintenance of a course of conduct already instinctively entered upon. When I see a sign on the street corner I can turn or go on, knowing what I am about. The perceptions of the scientist need have no such overt or "utilitarian" uses, but surely after them he behaves dif-

ferently, as an inquirer if in no other way; and the cumulative effect of such changes finally modifies the overt action of the ordinary man. That knowing, *after the event*, makes a difference of this sort, few I suppose would deny: if that were all pragmatism means, it would perhaps be accepted as a harmless truism. But there is a further question of fact: just how is the "consequent" action related to the "precedent" knowledge? When is "after the event"? What degree of continuity exists? Is the difference between knowing and acting intelligently one of kind or simply one of dominant quality? How does a thing, if it is not already in change in the knowing, manage to issue at its term in action? Moreover, do not the changes actively effected constitute the whole *import* of the knowledge, and hence its final measure and test of validity? If it merely happens that knowing when it is done with passes into some action, by what miracle is the subsequent action so pat to the situation? Is it not rather true that the "knowledge" is instituted and framed in anticipation of the consequent issue, and, in the degree in which it is wise and prudent, is held open to revision during it? Certainly the moralist (one might quote, for example, Goethe, Carlyle, and Mazzini) and the common man often agree that full knowledge, adequate assurance of reality is found only in the issue which fulfills ideas; that we have to do a doctrine to *know* its truth; otherwise it is only dogma or doctrinaire program. Experimental science is a recognition that no idea is entitled to be termed knowledge till it has passed into such overt manipulation of physical conditions as constructs the object to which the idea refers. If one could get rid of one's traditional logical theories and set to work afresh to frame a theory of knowledge on the basis of the procedure of the common man, the moralist, and the experimentalist, would it be the forced or the natural procedure to say that the realities which we *know*, which we are sure of, are precisely those realities that have taken shape in and through the active procedures of knowing?

I turn to another type of consideration. Certainly one of the most genuine problems of modern life is the reconciliation of the scientific view of the universe with the claims of the moral life. Are judgments in terms of the redistribution of matter in motion (or some other closed formula) alone valid? Or are accounts of the universe in terms of possibility and desirability, of initiative and responsibility, also valid? There is no occasion to expatiate on the importance of the moral life, nor upon the supreme importance of intelligence within the moral life. But there does seem to be occasion for asking how moral judgments—judgments of the would and should—relate themselves to the world of scientific knowledge. To frame a theory of knowledge which makes it necessary

to deny the validity of moral ideas, or else to refer them to some other and separate kind of universe from that of common sense and science, is both provincial and arbitrary. The pragmatist has at least tried to face, and not to dodge, the question of how it is that moral and scientific "knowledge" can both hold of one and the same world. And whatever the difficulties in his proffered solution, the conception that scientific judgments are to be assimilated to moral is closer to common sense than is the theory that validity is to be denied to moral judgments because they do not square with a preconceived theory of the nature of the world to which scientific judgments must refer. And all moral judgments are about changes to be made.

### III

I turn to one affiliation of the pragmatic theory with the results of recent science. The necessity, for the occurrence of an event in the way of knowledge, of an organism which reacts or behaves in a specific way, would seem to be as well established as any specific proposition. It is a peculiar fact, a fact fit to stir curiosity, that the rational function seems to be intercalated in a scheme of practical adjustments. The parts and members of the organism are certainly not there primarily for pure intellection or for theoretic contemplation. The brain, the last physical organ of thought, is a part of the same practical machinery for bringing about adaptation of the environment to the life requirements of the organism, to which belong legs and hand and eye. That the brain frees organic behavior from complete servitude to immediate physical conditions, that it makes possible the liberation of energy for remote and ever expanding ends is, indeed, a precious fact, but not one which removes the brain from the category of organic devices of behavior.<sup>2</sup> That the organ of thinking, of knowledge, was at least originally an organ of conduct, few, I imagine, will deny. And even if we try to believe that the cognitive function has supervened as a different operation, it is difficult to believe that the transfiguration has been so radical that knowing has lost all traces of its connection with vital impulse. But unless we so assume, have we any alternatives except to hold that this continual

<sup>2</sup> It is interesting to note how the metaphysical puzzles regarding "parallelism," "interaction," "automatism," "the relation of 'consciousness' to 'body,'" "evaporate when one ceases isolating the brain into a peculiar physical substrate of mind at large, and treats it simply as one portion of the body which is the instrumentality of adaptive behavior.

presence of vital impulse is a disturbing and refracting factor, which forever prevents knowledge from reaching its own aim; or else that a certain promoting, a certain carrying forward of the vital impulse, imparting certain differences in things, is the aim of knowledge?

The problem cannot be evaded—save ostrich wise—by saying that such considerations are "merely genetic," or "psychological," having to do only with the origin and natural history of knowing. For the point is that the organic reaction, the behavior of the organism, affects the *content* of awareness. The subject-matter of all awareness is thing-related to-organism—related as stimulus direct or indirect or as material of response, present or remote, ulterior or achieved.

No one—so far as I know—denies this with respect to the perceptual field of awareness. Pains, pleasures, hunger, and thirst, all "secondary" qualities, involve inextricably the "interaction" of organism and environment. The perceptual field is distributed and arranged as the possible field of selective reactions of the organism at its center. Up and down, far and near, before and behind, right and left, hard and soft (as well as white and black, bass and alto), involve reference to a center of behavior.

This material has so long been the stock in trade of both idealistic arguments and proclamations of the agnostic "relativity" of knowledge that philosophers have grown weary of listening. But even this lethargy might be quickened by a moderate hospitality to the pragmatic interpretation. That red, or far and near, or hard and soft, or big and little, involves a relation between organism and environment, is no more an argument for idealism than is the fact that water involves a relation between hydrogen and oxygen.<sup>3</sup> It is, however, an argument for the ultimately practical value of these distinctions—that they are *differences* made in what things would have been without organic behavior—differences made not by "consciousness" or "mind," but by the organism as the active center of a system of activities. Moreover, the whole agnostic sting of the doctrine of "relativity" lies in the assumption that the ideal or aim of knowledge is to repeat or copy a prior existence—in which case, of course, the making of contemporaneous differences by the organism in the very fact of awareness would get in the way and forever hinder the knowledge function from the fulfillment of its proper end. Knowledge, awareness, in this case suffers from an impediment which no surgery can better. But if the aim of knowing be precisely to make *certain* differences in an environment, to carry on to

<sup>3</sup> I owe this illustration to my colleague, Dr. Montague.

*favorable issue*, by the readjustment of the organism, certain changes going on indifferently in the environment, then the fact that the changes of the organism enter pervasively into the subject-matter of awareness is no restriction or perversion of knowledge, but part of the fulfillment of its office.

The only question would then be whether *proper* reactions take place. The whole agnostic, positivistic controversy is flanked by a single move. The issue is no longer an ideally necessary but actually impossible copying, *versus* an improper but unavoidable modification of reality through organic inhibitions and stimulations: but it is the right, the economical, the effective, and, if one may venture, the useful and satisfactory reaction *versus* the wasteful, the enslaving, the misleading, and the confusing reaction. The presence of organic responses, influencing and modifying every content, every subject-matter of awareness, is the undoubted fact. But the significant thing is the way organic behavior enters in—the way it influences and modifies. We assign very different values to different types of "knowledge,"—or subject-matters involving organic attitudes and operations. Some are only guesses, opinions, suspicious characters; others are "knowledge" in the honorific and eulogistic sense—science; some turn out mistakes, blunders, errors. Whence and how this discrimination of quality in what is taken at its own time to be good knowledge? Why and how is the content of some "knowledge" genuine-knowing and of other mis-knowing? Awareness is itself a blanket term, covering, in the same bed, delusion, doubt, confusion, ambiguity, and definition, organization, logical conclusiveness assured by evidence and reason. Any naturalistic or realistic theory is committed to the idea that all of these terms bear impartially the same relation to things considered as sheer existence. What we must have in any case is the same existences—the same in kind—only differently arranged or linked up. But why then the tremendous difference in value? And if the un-naturalist, the non-realist, says the difference is one of existential kind, made by the working here malign, there benign, of "consciousness," "psychical" operations and states, upon the existences which are the direct subject-matter of knowledge, there is still the problem of discriminating the conditions and nature of the respective beneficent and malicious interventions of the peculiar "existence" labeled consciousness.<sup>4</sup> The realness of error, ambiguity, doubt and guess poses a problem. It is a problem which has perplexed philosophy

<sup>4</sup> Of course on the theory I am interested in expounding, the so-called action of "consciousness" means simply the organic releases in the way of behavior which are the conditions of awareness, and which also modify its content.

so long and has led to so many speculative adventures, that it would seem worth while, were it only for the sake of variety, to listen to the pragmatic solution according to which it is the business of the organic adaptation involved in all knowing to make a *certain* difference in reality, but *not* to make any old or casual difference. The right, the true and good, difference is that which carries out satisfactorily the specific purpose for the sake of which knowing occurs. All manufactures are the product of an activity, but it does not follow that all manufactures are equally good. And so all "knowledges" are differences made in things by knowing, but some differences are not calculated or wanted in the knowing, and hence are disturbers and interlopers when they come—while others fulfill the intent of the knowing, being in harmony with the consistent behavior of the organism and re-inforcing and enlarging its function. A mistake is literally a mishandling; a doubt is a temporary suspense and vacillation of reactions; an ambiguity is the tension of alternative but incompatible mode of responsive treatment; an inquiry is a tentative and retrievable (because intra-organic) mode of activity, entered upon prior to launching upon a knowledge which is public, ineluctable—without anchors to windward—since it has taken physical effect through overt action.

It is practically all one to say that the norm of honorable knowing is to make no difference in *its* object, and that its aim is to attain and but-tress a specific kind of difference in reality. Knowing fails in its business if it makes a change in its *own* object—that is a mistake; but its own object is none the less a prior existence changed in a certain way. Nor is this a play upon the two senses—end and subject-matter—of "object." The organism has its appropriate functions. To maintain, to expand, adequate functioning is its business. This functioning does not occur *in vacuo*. It involves co-operative and readjusted changes in the cosmic medium. Hence the appropriate subject-matter of awareness is not reality at large, a metaphysical heaven to be mimeographed at many removes upon a badly constructed mental carbon paper which yields at best only fragmentary, blurred, and erroneous copies. Its proper and legitimate object is that relationship of organism and environment in which functioning is most amply and effectively attained; or by which, in case of obstruction and consequent needed experimentation, its later eventual free course is most facilitated. As for the other reality, metaphysical reality *at large*, it may, so far as awareness is concerned, go to its own place.

For ordinary purposes, that is for practical purposes, the truth and the realness of things are synonymous. We are all children who say

"really and truly." A reality which is taken in organic response so as to lead to subsequent reactions that are off the track and aside from the mark, while it is, existentially speaking, perfectly real, is not *good* reality. It lacks the hallmark of value. Since it is a certain *kind* of object which we want, one which will be as favorable as possible to a consistent and liberal or growing functioning, it is this kind, the *true* kind, which for us monopolizes the title of reality. Pragmatically, teleologically, this identification of truth and "reality" is sound and reasonable: rationalistically, it leads to the notion of the duplicate versions of reality, one absolute and static because exhausted; the other phenomenal and kept continually on the jump because otherwise its own inherent nothingness would lead to its total annihilation. Since it is only genuine or sincere things, things which are good for what they lay claim to in the way of consequences, which we want or are after, *morally* they alone are "real."

#### IV

So far we have been dealing with awareness as a fact—a fact there like any fact—and have been concerned to show that the subject-matter of awareness is, in any case, things in process of change; and in such change that the knowing function takes a hand in trying to guide it or steer it, so that *some* (and *not* other) consequences accrue. But what about the awareness itself? What happens when it is made the subject-matter of awareness? What sort of a thing is it? It is, I submit, mere sophistication (futile at that), to argue either that we cannot become aware of awareness without involving ourselves in an endless regress, or that whenever we are aware of anything we are thereby necessarily aware of awareness once for all, so that it has no character save a purely formal and empty one. Taken concretely, awareness is an event with certain specifiable conditions. We may indeed be aware of it formally, as a bare fact, just as we may be cognizant of an explosion without knowing anything of its nature. But we may also be aware of it in a curious and analytic spirit, undertaking to study it in detail. This inquiry, like any other inquiry, proceeds by determining conditions and consequences. Here awareness is a characteristic fact, presenting to inquiry its own characteristic ear-marks, and a valid knowledge of awareness is the same sort of thing as valid knowledge of the spectrum or of a trotting horse; it proceeds generically in the same way and must satisfy the same generic tests.

What, then, is awareness found to be? The following answer, dogmatically summary in form, involves positive difficulties, and glides over many points where our ignorance is still too great. But it represents a general trend of scientific inquiry, carried on, I hardly need say, on its own merits without respect to the pragmatic controversy. Awareness means *attention*, and attention means a crisis of some sort in an existent situation; a forking of the roads of some material, a tendency to go this way and that. It represents something the matter, something out of gear, or in some way menaced, insecure, problematical and strained. This state of tension, of ambiguous indications, projects and tendencies, is not merely in the "mind," it is nothing merely emotional. It is in the facts of the situation as transitive facts; the emotional or "subjective" disturbance is just a part of the larger disturbance. And if, employing the *language* of psychology, we say that attention is a phenomenon of conflicting habits, being the process of resolving this conflict by finding an act which functions for all the factors concerned, this language does not make the facts "merely psychological"—whatever that means.<sup>5</sup> The habits are as biologic as they are "personal," and as cosmic as they are biologic. They are the total order of things expressed in one way; just as a physical or chemical phenomenon is the same order expressed in another way. The statement in terms of conflict and readjustment of habits is at most one way of locating the disturbance in *things*; it furnishes no substitute for, or rival of, reality, and no "psychical" duplication.

If this be true, then awareness, even in its most perplexed and confused state, that of maximum doubt and precariousness of subject-matter, means things entering, *via* the particular thing known as organism, into a peculiar condition of differential—or additive—change. How can we refuse to raise and consider the question of how things in this condition are related to the prior state which emerges into it, and to the subsequent state of things into which it issues?<sup>6</sup>

Suppose the case to be awareness of a chair. Suppose that this

<sup>5</sup> What does it mean? Does the objectivity of fact disappear when the biologist gives it a biological statement? Why not object to his conclusions on the ground that they are "merely" biological?

<sup>6</sup> It is this question of *the relation to one another of different successive states of things* which the pragmatic method substitutes for the epistemological inquiry of how one sort of existence, purely mental, temporal but not spatial, immaterial, made of sublimated gaseous consciousness, can get beyond itself and have valid reference to a totally different kind of existence—spatial and extended; and how it can receive impressions from the latter, etc.,—all the questions which constitute that species of confirmed intellectual lock-jaw called epistemology.

awareness comes only when there is some problematic affair with which the chair is in some way—in whatever degree of remoteness—concerned. It may be a wonder whether it is a chair at all; or whether it is strong enough to stand on; or where I shall put it; or whether it is worth what I paid for it; or, as not infrequently happens, the situation involved in uncertainty may be some philosophic matter in which the perception of the chair is cited as evidence of illustration. (Humorously enough, awareness of it may even be cited in the course of a philosophic argument intended to show that awareness has nothing to do with situations of incompleteness and ambiguity.) Now what of the change the chair undergoes in entering this way into a situation of perplexed inquiry? Is this any part of the genuineness of that chair with which we are concerned? If not, where is the change found? In something totally different called "consciousness"? In that case how can the operations of inquiry, of observation and memory and reflection, ever have any assurance of getting referred back to the *right* object? Positively the presumption is that the *chair-of-which-we-are-speaking* is the chair *of-which-we-are-speaking*; it is the *same* thing that is out there which is also involved in the doubtful situation. Moreover, the reference to "consciousness" as the exclusive locus of the doubt only repeats the problem, for "consciousness," by the theory under consideration, means, after all, only the chair *as* concerned in the problematical situation. The *physical* chair remains unchanged, you say. Surely, if, as is altogether likely, what is *meant* by physical is precisely *that part* of the chair as object of total awareness which remains unaffected, for certain possible purposes, by entering for certain other actual purposes into the situation of awareness. But how can we segregate, *antecedently* to experimental inquiry, the "physical" chair from the chair which is now the object to be known; into what contradictions do we fall when we attempt to define the object of one awareness not in its own terms, but in terms of a selected type of object which is the appropriate subject-matter of some other cognizance!

But awareness means inquiry as well as doubt—there are the negative and positive, the retrospective and the prospective relationships of the thing. This means a genuinely *additive* quality—one of readjustment in prior things.<sup>7</sup> I know the dialectic argument that nothing can assume a new relation, because in order to do so it must

<sup>7</sup> We have arrived here, upon a more analytic platform, at the point made earlier concerning the fact that knowing *issues* in action which changes things.

already be completely related—when it comes from an absolutist I can understand why he holds it, even if I cannot understand the idea itself. But apart from this conceptual reasoning we must follow the lead of our subject-matter; and when we find a thing assuming new relations in the process of inquiry, must accept the fact, and frame our theory of things and of knowing to include it, not assert that it is impossible because we already have a theory of knowledge which precludes it. In inquiry, the existence which has become doubtful always undergoes experimental reconstruction. This may be largely imaginative or "speculative." We may view certain things *as if* placed under varying conditions, and consider what then happens to them. But such differences are really transformative as far as they go,—and besides, such inquiries never reach conclusions finally justifiable. In important and persistent inquiry, we insist upon something in the way of actual physical making—be it only a diagram. In other words, *science*, or knowing in its honorific sense, is experimental, involving physical construction. We insist upon something being *done about* it, that we may see how the idea when carried into effect comports with the other things through which our activities are hedged in and released. To avoid this conclusion by saying that knowing makes no difference in the "truth," but merely is the preliminary exercise which discovers it, is that old friend whose acquaintance we have repeatedly made in this discussion: the fallacy of confusing an existence antecedent knowing with the object which terminates and fulfills it. For knowing to make a difference in its own final term is gross self-stultification; it is none the less so when the aim of knowing is precisely to guide things straight up to this term. When "truth" means the accomplished introduction of certain new differences into conditions, why be foolish enough to introduce other differences, which are not wanted since they are irrelevant and misleading?

Were it not for the teachings of sad experience, it would not be necessary to add that the change in environment made by knowing is not a total or miraculous change. Transformation, readjustment, reconstruction, all imply prior existences: existences which have characters and behaviors of their own which must be accepted, consulted, humored, manipulated or made light of, in all kinds of differing ways in the different contexts of different problems. Making a difference in reality does not mean making any more difference than we find by experimentation can be made under the given conditions—even though we may still hope for different fortune another time under other circumstances. Still less does it mean making a thing into an unreality,

though the pragmatist is sometimes criticized as if any change in reality must be a change into non-reality. There are difficulties, indeed, both dialectic, and real or practical, in the fact of change—in the fact that only a permanent can change and that change is alteration of a permanent. But till we enjoin botanists and chemists from referring to changes and transformations in their subject-matter on the ground that for anything to change means for it to part with its reality, we may as well permit the logician to make similar references.

## V

*Sub specie aeternitatis?* or *sub specie generationis?* I am susceptible to the esthetic charm of the former ideal—who is not? There are moments of relaxation: there are moments when the demand for peace, to be let alone and relieved from the continual claim of the world in which we live that we be up and doing something about it, seems irresistible; when the responsibilities imposed by living in a moving universe seem intolerable. We contemplate with equal mind the thought of the eternal sleep. But, after all, this is a matter in which reality and not the philosopher is the court of final jurisdiction. Outside of philosophy, the question seems fairly settled; in science, in poetry, in social organization, in religion—wherever religion is not hopelessly at the mercy of a Frankenstein philosophy which it originally called into being to be its own slave. Under such circumstances there is danger that the philosophy which tries to escape the form of generation by taking refuge under the form of eternity will only come under the form of a bygone generation. To try to escape from the snares and pitfalls of time by recourse to traditional problems and interests:—rather than that let the dead bury their own dead. Better it is for philosophy to err in active participation in the living struggles and issues of its own age and times than to maintain an immune monastic impeccability, without relevancy and bearing in the generating ideas of its contemporary present. In the one case, it will be respected, as we respect all virtue that attests its sincerity by sharing in the perplexities and failures, as well as in the joys and triumphs, of endeavor. In the other case, it bids fair to share the fate of whatever preserves its gentility, but not its activity, in descent from better days; namely, to be snugly ensconced in the consciousness of its own respectability.

## 15. The Pattern of Inquiry\*

At the beginning of Part II of his *Logic: The Theory of Inquiry*, John Dewey attempts to lay the groundwork for his operational approach to the problem of inquiry. He defines inquiry as "the controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole."

Continuous with the theme of his earlier writings, several of which are reprinted above, Dewey focuses on the functional character of logical forms. He holds that "formal conceptions arise out of the ordinary transactions; they are not imposed upon them from on high or from any external and *a priori* source." And reminiscent of his views on "conclusions" and "consummations" in *Art as Experience*, Dewey contends that "objects" are not fixed things to be thought about but are both "outcomes of inquiries" and "means of attaining knowledge of something else." This chapter is the key to Dewey's book on *Logic* and in summary fashion contains the major themes and judgments of his mature theory of knowing.

The first chapter set forth the fundamental thesis of this volume: Logical forms accrue to subject-matter when the latter is subjected to controlled inquiry. It also set forth some of the implications of this thesis for the nature of logical theory. The second and third chapters stated the independent grounds, biological and cultural, for holding that logic is a theory of experiential naturalistic subject-matter. The first of the next two chapters developed the theme with reference to the relations of the logic of common sense and science, while the second discussed Aristotelian logic as the organized formulation of the language of Greek life, when that language is regarded as the expression of the meanings of Greek culture and of the significance attributed to various forms of natural existence. It was held throughout these chap-

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ters that inquiry, in spite of the diverse subjects to which it applies, and the consequent diversity of its special techniques has a common structure or pattern: that this common structure is applied both in common sense and science, although because of the nature of the problems with which they are concerned, the emphasis upon the factors involved varies widely in the two modes. We now come to the consideration of the common pattern.

The fact that new formal properties accrue to subject-matter in virtue of its subjection to certain types of operation is familiar to us in certain fields, even though the idea corresponding to this fact is unfamiliar in logic. Two outstanding instances are provided by art and law. In music, the dance, painting, sculpture, literature and the other fine arts, subject-matters of everyday experience are *transformed* by the development of forms which render certain products of doing and making objects of fine art. The materials of legal regulations are transactions occurring in the ordinary activities of human beings and groups of human beings; transactions of a sort that are engaged in apart from law. As certain aspects and phases of these transactions are legally formalized, conceptions such as misdemeanor, crime, torts, contracts and so on arise. These formal conceptions arise out of the ordinary transactions; they are not imposed upon them from on high or from any external and *a priori* source. But when they are formed they are also *formative*; they regulate the proper conduct of the activities out of which they develop.

All of these formal legal conceptions are operational in nature. They formulate and define *ways* of operation on the part of those engaged in the transactions into which a number of persons or groups enter as "parties," and the ways of operation followed by those who have jurisdiction in deciding whether established forms have been complied with, together with the existential consequences of failure of observation. The forms in question are not fixed and eternal. They change, though as a rule too slowly, with changes in the habitual transactions in which individuals and groups engage and the changes that occur in the consequences of these transactions. However hypothetical may be the conception that *logical* forms accrue to existential materials in virtue of the control exercised over inquiries in order that they may fulfil their end, the conception is descriptive of something that verifiably exists. The development of forms in consequence of operations is an established fact in some fields; it is not invented *ad hoc* in relation to logical forms.

The existence of inquiries is not a matter of doubt. They enter into every area of life and into every aspect of every area. In everyday living,

men examine; they turn things over intellectually; they infer and judge as "naturally" as they reap and sow, produce and exchange commodities. As a mode of conduct, inquiry is as accessible to objective study as are these other modes of behavior. Because of the intimate and decisive way in which inquiry and its conclusions enter into the management of all affairs of life, no study of the latter is adequate save as it is noted how they are affected by the methods and instruments of inquiry that currently obtain. Quite apart, then, from the particular hypothesis about logical forms that is put forth, study of the objective facts of inquiry is a matter of tremendous import, practically and intellectually. These materials provide the theory of logical forms with a subject-matter that is not only objective but is objective in a fashion that enables logic to avoid the three mistakes most characteristic of its history.

1. In virtue of its concern with objectively observable subject-matter by reference to which reflective conclusions can be tried and tested, dependence upon subjective and "mentalistic" states and processes is eliminated.

2. The distinctive existence and nature of forms is acknowledged. Logic is not compelled, as historic "empirical" logic felt compelled to do, to reduce logical forms to mere transcripts of the empirical materials that antecede the existence of the former. Just as art-forms and legal forms are capable of independent discussion and development, so are logical forms, even though the "independence" in question is intermediate, not final and complete. As in the case of these other forms, they originate *out* of experiential material, and when constituted introduce new ways of operating with prior materials, which ways modify the material out of which they develop.

3. Logical theory is liberated from the unobservable, transcendental and "intuitional."

When methods and results of inquiry are studied as objective data, the distinction that has often been drawn between noting and reporting the ways in which men *do* think, and prescribing the ways in which they *ought* to think, takes on a very different interpretation from that usually given. The usual interpretation is in terms of the difference between the psychological and the logical, the latter consisting of "norms" provided from some source wholly outside of and independent of "experience."

The way in which men *do* "think" denotes, as it is *here* interpreted, simply the ways in which men at a given time carry on their inquiries. So far as it is used to register a difference from the ways in which they *ought* to think, it denotes a difference like that between good and bad

farming or good and bad medical practice. Men think in ways they should not when they follow methods of inquiry that experience of past inquiries shows are not competent to reach the intended end of the inquiries in question.

Everybody knows that today there are in vogue methods of farming generally followed in the past which compare very unfavorably in their results with those obtained by practices that have already been introduced and tested. When an expert tells a farmer he *should* do thus and so, he is not setting up for a bad farmer an ideal drawn from the blue. He is instructing him in methods that have been tried and that have proved successful in procuring results. In a similar way we are able to contrast various kinds of inquiry that are in use or that have been used in respect to their economy and efficiency in reaching warranted conclusions. We know that some methods of inquiry are better than others in just the same way in which we know that some methods of surgery, farming, road-making, navigating or what-not are better than others. It does not follow in any of these cases that the "better" methods are ideally perfect, or that they are regulative or "normative" because of conformity to some absolute form. They are the methods which experience up to the present time shows to be the best methods available for achieving certain results, while abstraction of these methods does supply a (relative) norm or standard for further undertakings.

The search for the pattern of inquiry is, accordingly, not one instituted in the dark or at large. It is checked and controlled by knowledge of the kinds of inquiry that have and that have not worked; methods which, as was pointed out earlier, can be so compared as to yield reasoned or rational conclusions. For, through comparison-contrast, we ascertain *how and why* certain means and agencies have provided warrantably assertible conclusions, while others have not and *cannot* do so in the sense in which "cannot" expresses an intrinsic incompatibility between means used and consequences attained.

We may now ask: What is the *definition* of Inquiry? That is, what is the most highly generalized conception of inquiry which can be justifiably formulated? The definition that will be expanded, directly in the present chapter and indirectly in the following chapters, is as follows: *Inquiry is the controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole.*<sup>1</sup>

<sup>1</sup> The word "situation" is to be understood in the sense already expounded.

The original indeterminate situation is not only "open" to inquiry, but it is open in the sense that its constituents do not hang together. The determinate situation on the other hand, *qua* outcome of inquiry, is a closed and, as it were, finished situation or "universe of experience." "Controlled or directed" in the above formula refers to the fact that inquiry is competent in any given case in the degree in which the operations involved in it actually do terminate in the establishment of an objectively unified existential situation. In the intermediate course of transition and transformation of the indeterminate situation, *discourse* through use of symbols is employed as means. In received logical terminology, propositions, or terms and the relations between them, are intrinsically involved.

I. *The Antecedent Conditions of Inquiry: The Indeterminate Situation.* Inquiry and questioning, up to a certain point, are synonymous terms. We inquire when we question; and we inquire when we seek for whatever will provide an answer to a question asked. Thus it is of the very nature of the indeterminate situation which evokes inquiry to be *questionable*; or, in terms of actuality instead of potentiality, to be uncertain, unsettled, disturbed. The peculiar quality of what pervades the given materials, constituting them a situation, is not just uncertainty at large; it is a unique doubtfulness which makes that situation to be just and only the situation it is. It is this unique quality that not only evokes the particular inquiry engaged in but that exercises control over its special procedures. Otherwise, one procedure in inquiry would be as likely to occur and to be effective as any other. Unless a situation is uniquely qualified in its very indeterminateness, there is a condition of complete panic; response to it takes the form of blind and wild overt activities. Stating the matter from the personal side, we have "lost our heads." A variety of names serves to characterize indeterminate situations. They are disturbed, troubled, ambiguous, confused, full of conflicting tendencies, obscure, etc.

It is the *situation* that has these traits. *We* are doubtful because the situation is inherently doubtful. Personal states of doubt that are not evoked by and are not relative to some existential situation are pathological; when they are extreme they constitute the mania of doubting. Consequently, situations that are disturbed and troubled, confused or obscure, cannot be straightened out, cleared up and put in order, by manipulation of our personal states of mind. The attempt to settle them by such manipulations involves what psychiatrists call "withdrawal from reality." Such an attempt is pathological as far as it goes, and when it goes far it is the source of some form of actual insanity. The

habit of disposing of the doubtful as if it belonged only to *us* rather than to the existential situation in which we are caught and implicated is an inheritance from subjectivistic psychology. The biological antecedent conditions of an unsettled situation are involved in that state of imbalance in organic-environmental interactions which has already been described. Restoration of integration can be effected, in one case as in the other, only by operations which actually modify existing conditions, not by merely "mental" processes.

It is, accordingly, a mistake to suppose that a situation is doubtful only in a "subjective" sense. The notion that in actual existence everything is completely determinate has been rendered questionable by the progress of physical science itself. Even if it had not been, complete determination would not hold of existences as an *environment*. For Nature is an environment only as it is involved in interaction with an organism, or self, or whatever name be used.<sup>2</sup>

Every such interaction is a temporal process, not a momentary cross-sectional occurrence. The situation in which it occurs is indeterminate, therefore, with respect to its *issue*. If we call it *confused*, then it is meant that its outcome cannot be anticipated. It is called *obscure* when its course of movement permits of final consequences that cannot be clearly made out. It is called *conflicting* when it tends to evoke discordant responses. Even were existential conditions unqualifiedly determinate in and of themselves, they are indeterminate in *significance*: that is, in what they import and portend in their interaction with the organism. The organic responses that enter into the production of the state of affairs that is temporally later and sequential are just as existential as are environing conditions.

The immediate *locus* of the problem concerns, then, what kind of responses the organism shall make. It concerns the interaction of organic responses and environing conditions in their movement toward an existential issue. It is a commonplace that in any troubled state of affairs *things* will come out differently according to what is done. The farmer won't get grain unless he plants and tills; the general will win or lose the battle according to the way he conducts it, and so on. Neither

<sup>2</sup> Except of course a purely mentalistic name, like *consciousness*. The alleged problem of "interactionism" versus automatism, parallelism, etc., is a problem (and an insoluble one) because of the assumption involved in its statement—the assumption, namely, that the interaction in question is with something mental instead of with biological-cultural human beings.

the grain nor the tilling, neither the outcome of the battle nor the conduct of it, are "mental" events. Organic interaction becomes inquiry when existential consequences are anticipated; when environing conditions are examined with reference to their potentialities; and when responsive activities are selected and ordered with reference to actualization of some of the potentialities, rather than others, in a final existential situation. Resolution of the indeterminate situation is active and operational. If the inquiry is adequately directed, the final issue is the unified situation that has been mentioned.

II. *Institution of a Problem*. The unsettled or indeterminate situation might have been called a *problematic* situation. This name would have been, however, proleptic and anticipatory. The indeterminate situation becomes problematic in the very process of being subjected to inquiry. The indeterminate situation comes into existence from existential causes, just as does, say, the organic imbalance of hunger. There is nothing intellectual or cognitive in the existence of such situations, although they are the necessary condition of cognitive operations or inquiry. In themselves they are precognitive. The first result of evocation of inquiry is that the situation is taken, adjudged, to be problematic. To see that a situation requires inquiry is the initial step in inquiry.<sup>3</sup>

Qualification of a situation as problematic does not, however, carry inquiry far. It is but an initial step in institution of a problem. A problem is not a task to be performed which a person puts upon himself or that is placed upon him by others—like a so-called arithmetical "problem" in school work. A problem represents the partial transformation by inquiry of a problematic situation into a determinate situation. It is a familiar and significant saying that a problem well put is half-solved. To find out *what* the problem and problems are which a problematic situation presents to be inquired into, is to be well along in inquiry. To mistake the problem involved is to cause subsequent inquiry to be irrelevant or to go astray. Without a problem, there is blind groping in the dark. The way in which the problem is conceived decides what specific suggestions are entertained and which are dismissed; what data are selected and which rejected; it is the criterion for relevancy and irrelevancy of hypotheses and conceptual structures. On the other hand,

<sup>3</sup> If by "two-valued logic" is meant a logic that regards "true and false" as the sole logical values, then such a logic is necessarily so truncated that clearness and consistency in logical doctrine are impossible. Being the matter of a problem is a primary logical property.

to set up a problem that does not grow out of an actual situation is to start on a course of dead work, nonetheless dead because the work is "busy work." Problems that are self-set are mere excuses for seeming to do something intellectual, something that has the semblance but not the substance of scientific activity.

III. *The Determination of a Problem-Solution.* Statement of a problematic situation in terms of a problem has no meaning save as the problem instituted has, in the very terms of its statement, reference to a possible solution. Just because a problem well stated is on its way to solution, the determining of a genuine problem is a *progressive* inquiry; the cases in which a problem and its probable solution flash upon an inquirer are cases where much prior ingestion and digestion have occurred. If we assume, prematurely, that the problem involved is definite and clear, subsequent inquiry proceeds on the wrong track. Hence the question arises: How is the formation of a genuine problem so controlled that further inquiries will move toward a solution?

The first step in answering this question is to recognize that no situation which is *completely* indeterminate can possibly be converted into a problem having definite constituents. The first step then is to search out the *constituents* of a given situation which, as constituents, are settled. When an alarm of fire is sounded in a crowded assembly hall, there is much that is indeterminate as regards the activities that may produce a favorable issue. One may get out safely or one may be trampled and burned. The fire is characterized, however, by some settled traits. It is, for example, located *somewhere*. Then the aisles and exits are at fixed places. Since they are settled or determinate in *existence*, the first step in institution of a problem is to settle them in *observation*. There are other factors which, while they are not as temporally and spatially fixed, are yet observable constituents; for example, the behavior and movements of other members of the audience. All of these observed conditions taken together constitute "the facts of the case." They constitute the terms of the problem, because they are conditions that must be reckoned with or taken account of in any relevant solution that is proposed.

A *possible* relevant solution is then suggested by the determination of factual conditions which are secured by observation. The possible solution presents itself, therefore, as an *idea*, just as the terms of the problem (which are facts) are instituted by observation. Ideas are anticipated consequences (forecasts) of what will happen when certain operations are executed under and with respect to observed condi-

tions.<sup>4</sup> Observation of facts and suggested meanings or ideas arise and develop in correspondence with each other. The more the facts of the case come to light in consequence of being subjected to observation, the clearer and more pertinent become the conceptions of the way the problem constituted by these facts is to be dealt with. On the other side, the clearer the idea, the more definite, as a truism, become the operations of observation and of execution that must be performed in order to resolve the situation.

An idea is first of all an anticipation of something that may happen; it marks a *possibility*. When it is said, as it sometimes is, that science is *prediction*, the anticipation that constitutes every idea an idea is grounded in a set of controlled observations and of regulated conceptual ways of interpreting them. Because inquiry is a progressive determination of a problem and its possible solution, ideas differ in grade according to the stage of inquiry reached. At first, save in highly familiar matters, they are vague. They occur at first simply as suggestions; suggestions just spring up, flash upon us, occur to us. They may then become stimuli to direct an overt activity but they have as yet no logical status. Every idea originates as a suggestion, but not every suggestion is an idea. The suggestion becomes an idea when it is examined with reference to its functional fitness; its capacity as a means of resolving the given situation.

This examination takes the form of reasoning, as a result of which we are able to appraise better than we were at the outset, the pertinency and weight of the meaning now entertained with respect to its functional capacity. But the final test of its possession of these properties is determined when it actually functions—that is, when it is put into operation so as to institute by means of observations facts not previously observed, and is then used to organize them with other facts into a coherent whole.

Because suggestions and ideas are of that which is not present in given existence, the meanings which they involve must be embodied in some symbol. Without some kind of symbol no idea; a meaning that is

<sup>4</sup> The theory of *ideas* that has been held in psychology and epistemology since the time of Locke's successors is completely irrelevant and obstructive in logical theory. For in treating them as copies of perceptions or "impressions," it ignores the prospective and anticipatory character that defines *being* an idea. Failure to define ideas functionally, in the reference they have to a solution of a problem, is one reason they have been treated as merely "mental." The notion, on the other hand, that ideas are fantasies is a derivative. Fantasies arise when the function an idea performs is ruled out when it is entertained and developed.

completely disembodied can not be entertained or used. Since an existence (which *is* an existence) is the support and vehicle of a meaning and is a symbol instead of a merely physical existence only in this respect, embodied meanings or ideas are capable of objective survey and development. To "look at an idea" is not a mere literary figure of speech.

"Suggestions" have received scant courtesy in logical theory. It is true that when they just "pop into our heads," because of the workings of the psycho-physical organism, they are not logical. But they are both the conditions and the primary stuff of logical ideas. The traditional empiristic theory reduced them, as has already been pointed out, to mental copies of physical things and assumed that they were *per se* identical with ideas. Consequently it ignored the function of ideas in directing observation and in ascertaining relevant facts. The rationalistic school, on the other hand, saw clearly that "facts" apart from ideas are trivial, that they acquire import and significance only in relation to ideas. But at the same time it failed to attend to the operative and functional nature of the latter. Hence, it treated ideas as equivalent to the ultimate structure of "Reality." The Kantian formula that apart from each other "perceptions are blind and conceptions empty" marks a profound logical insight. The insight, however, was radically distorted because perceptual and conceptual contents were supposed to originate from different sources and thus required a third activity, that of synthetic understanding, to bring them together. In logical fact, perceptual and conceptual materials are instituted in functional correlativity with each other, in such a manner that the former locates and describes the problem while the latter represents a possible method of solution. Both are determinations in and by inquiry of the original problematic situation whose pervasive quality controls their institution and their contents. Both are finally checked by their capacity to work together to introduce a resolved unified situation. As distinctions they represent logical divisions of labor.

IV. *Reasoning*. The necessity of developing the meaning-contents of ideas in their relations to one another has been incidentally noted. This process, operating with symbols (constituting propositions) is reasoning in the sense of ratiocination or rational discourse.<sup>5</sup> When a suggested meaning is immediately accepted, inquiry is cut short. Hence the conclusion reached is not grounded, even if it happens to be correct. The

<sup>5</sup> "Reasoning" is sometimes used to designate *inference* as well as *ratiocination*. When so used in logic the tendency is to identify inference and implication and thereby seriously to confuse logical theory.

check upon immediate acceptance is the examination of the meaning as a meaning. This examination consists in noting what the meaning in question implies in relation to other meanings in the system of which it is a member, the formulated relation constituting a proposition. If such and such a relation of meanings is accepted, then we are committed to such and such other relations of meanings because of their membership in the same system. Through a series of intermediate meanings, a meaning is finally reached which is more clearly *relevant* to the problem in hand than the originally suggested idea. It indicates operations which can be performed to test its applicability, whereas the original idea is usually too vague to determine crucial operations. In other words, the idea or meaning when developed in discourse directs the activities which, when executed, provide needed evidential material.

The point made can be most readily appreciated in connection with scientific reasoning. An hypothesis, once suggested and entertained, is developed in relation to other conceptual structures until it receives a form in which it can instigate and direct an experiment that will disclose precisely those conditions which have the maximum possible force in determining whether the hypothesis should be accepted or rejected. Or it may be that the experiment will indicate what modifications are required in the hypothesis so that it may be applicable, i.e., suited to interpret and organize the facts of the case. In many familiar situations, the meaning that is most relevant has been settled because of the evaluations of experiments in prior cases so that it is applicable almost immediately upon its occurrence. But, indirectly, if not directly, an idea or suggestion that is not developed in terms of the constellation of meanings to which it belongs can lead only to overt response. Since the latter terminates inquiry, there is then no adequate inquiry into the meaning that is used to settle the given situation, and the conclusion is in so far logically ungrounded.

V. *The Operational Character of Facts-Meanings*. It was stated that the observed facts of the case and the ideational contents expressed in ideas are related to each other, as, respectively, a clarification of the problem involved and the proposal of some possible solution; that they are, accordingly, functional divisions in the work of inquiry. Observed facts in their office of locating and describing the problem are existential; ideational subject-matter is non-existential. How, then, do they cooperate with each other in the resolution of an existential situation? The problem is insoluble save as it is recognized that both observed facts and entertained ideas are operational. Ideas are operational in that they instigate and direct further operations of observation; they are pro-

posals and plans for acting upon existing conditions to bring new facts to light and to organize all the selected facts into a coherent whole.

What is meant by calling facts operational? Upon the negative side what is meant is that they are not self-sufficient and complete in themselves. They are selected and described, as we have seen, for a purpose, namely statement of the problem involved in such a way that its material both indicates a meaning relevant to resolution of the difficulty and serves to test its worth and validity. In regulated inquiry facts are selected and arranged with the express intent of fulfilling this office. They are not merely *results* of operations of observation which are executed with the aid of bodily organs and auxiliary instruments of art, but they are the particular facts and kinds of facts that will link up with one another in the definite ways that are required to produce a definite end. Those not found to connect with others in furtherance of this end are dropped and others are sought for. Being functional, they are necessarily operational. Their function is to serve as evidence and their evidential quality is judged on the basis of their capacity to form an ordered whole in response to operations prescribed by the ideas they occasion and support. If "the facts of the case" were final and complete in themselves, if they did not have a special operative force in resolution of the problematic situation, they could not serve as evidence.

The operative force of facts is apparent when we consider that no fact in isolation has evidential potency. Facts are evidential and are tests of an idea in so far as they are capable of being organized with one another. The organization can be achieved only as they *interact* with one another. When the problematic situation is such as to require extensive inquiries to effect its resolution, a series of interactions intervenes. Some observed facts point to an idea that stands for a possible solution. This idea evokes more observations. Some of the newly observed facts link up with those previously observed and are such as to rule out other observed things with respect to their evidential function. The new order of facts suggests a modified idea (or hypothesis) which occasions new observations whose result again determines a new order of facts, and so on until the existing order is both unified and complete. In the course of this serial process, the ideas that represent possible solutions are tested or "proved."

Meantime, the orders of fact, which present themselves in consequence of the experimental observations the ideas call out and direct, are *trial* facts. They are provisional. They are "facts" if they are observed by sound organs and techniques. But they are not on that ac-

count the *facts of the case*. They are tested or "proved" with respect to their evidential function just as much as ideas (hypotheses) are tested with reference to their power to exercise the function of resolution. The operative force of both ideas and facts is thus practically recognized in the degree in which they are connected with *experiment*. Naming them "operational" is but a theoretical recognition of what is involved when inquiry satisfies the conditions imposed by the necessity for experiment.

I recur, in this connection, to what has been said about the necessity for symbols in inquiry. It is obvious, on the face of matters, that a possible mode of solution must be carried in symbolic form since it is a possibility, not an assured present existence. Observed facts, on the other hand, are existentially present. It might seem therefore, that symbols are not required for referring to them. But if they are not carried and treated by means of symbols, they lose their provisional character, and in losing this character they are categorically asserted and inquiry comes to an end. The carrying on of inquiry requires that the facts be taken as representative and not just as *pre-sented*. This demand is met by formulating them in propositions—that is, by means of symbols. Unless they are so represented they relapse into the total qualitative situation.

VI. *Common Sense and Scientific Inquiry*. The discussion up to this point has proceeded in general terms which recognize no distinction between common sense and scientific inquiry. We have now reached a point where the community of pattern in these two distinctive modes of inquiry should receive explicit attention. It was said in earlier chapters that the difference between them resides in their respective subject-matters, not in their basic logical forms and relations; that the difference in subject-matters is due to the difference in the problems respectively involved; and, finally, that this difference sets up a difference in the ends or objective consequences they are concerned to achieve. Because common sense problems and inquiries have to do with the interactions into which living creatures enter in connection with environing conditions in order to establish objects of use and enjoyment, the symbols employed are those which have been determined in the habitual culture of a group. They form a system but the system is practical rather than intellectual. It is constituted by the traditions, occupations, techniques, interests, and established institutions of the group. The meanings that compose it are carried in the common everyday language of communication between members of the group. The meanings involved in this common language system determine what individ-

uals of the group may and may not do in relation to physical objects and in relations to one another. They regulate *what* can be used and enjoyed and *how* use and enjoyment shall occur.

Because the symbol-meaning systems involved are connected directly with cultural life-activities and are related to each other in virtue of this connection, the specific meanings which are present have reference to the specific and limited enviroing conditions under which the group lives. Only those things of the environment that are taken, according to custom and tradition, as having connection with and bearing upon this life, enter into the meaning system. There is no such thing as disinterested intellectual concern with either physical or social matters. For, until the rise of science, there were no problems of common sense that called for such inquiry. Disinterestedness existed practically in the demand that group interests and concerns be put above private needs and interests. But there was no intellectual disinterestedness beyond the activities, interests and concerns of the group. In other words, there was no science as such, although, as was earlier pointed out, there did exist information and techniques which were available for the purposes of scientific inquiry and out of which the latter subsequently grew.

In scientific inquiry, then, meanings are related to one another on the ground of their character as meanings, freed from direct reference to the concerns of a limited group. Their intellectual abstractness is a product of this liberation, just as the "concrete" is practically identified by directness of connection with environmental interactions. Consequently a new language, a new system of symbols related together on a new basis, comes into existence, and in this new language semantic coherence, as such, is the controlling consideration. To repeat what has already been said, connection with problems of use and enjoyment is the source of the dominant role of qualities, sensible and moral, and of ends in common sense.

In science, since meanings are determined on the ground of their relation as meanings to one another, *relations* become the objects of inquiry and qualities are relegated to a secondary status, playing a part only as far as they assist in institution of relations. They are subordinate because they have an instrumental office, instead of being themselves, as in prescientific common sense, the matters of final importance. The enduring hold of common sense is testified to historically by the long time it took before it was seen that scientific objects are strictly relational. First tertiary qualities were eliminated; it was recognized that moral qualities are not agencies in determining the structure of nature. Then secondary qualities, the wet-dry, hot-cold, light-heavy, which were the

explanatory principles of physical phenomena in Greek science, were ejected. But so-called primary qualities took their place, as with Newton and the Lockean formulation of Newtonian existential postulates. It was not until the threshold of our time was reached that scientific inquiries perceived that their own problems and methods required an interpretation of "primary qualities" in terms of relations, such as position, motion and temporal span. In the structure of distinctively scientific objects these relations are indifferent to qualities.

The foregoing is intended to indicate that the different objectives of common sense and of scientific inquiry demand different subject-matters and that this difference in subject-matters is not incompatible with the existence of a common pattern in both types. There are, of course, secondary logical forms which reflect the distinction of properties involved in the change from qualitative and teleological subject-matter to non-qualitative and non-teleological relations. But they occur and operate within the described community of pattern. They are explicable, and explicable only, on the ground of the distinctive problems generated by scientific subject-matter. The independence of scientific objects from limited and fairly direct reference to the environment as a factor in activities of use and enjoyment, is equivalent, as has already been intimated, to their *abstract* character. It is also equivalent to their *general* character in the sense in which the generalizations of science are different from the generalizations with which common sense is familiar. The generality of *all* scientific subject-matter as such means that it is freed from restriction to conditions which present themselves at particular times and places. Their reference is to *any* set of time and place conditions—a statement which is not to be confused with the doctrine that they have no reference to actual existential occasions. Reference to time-place of existence is necessarily involved, but it is reference to whatever set of existences fulfils the general relations laid down in and by the constitution of the scientific object.<sup>6</sup>

*Summary.* Since a number of points have been discussed, it will be well to round up conclusions reached about them in a summary statement of the structure of the common pattern of inquiry. Inquiry is the directed or controlled transformation of an indeterminate situation into

<sup>6</sup> The consequences that follow are directly related to the statement in Ch. IV that the elimination of qualities and ends is intermediate; that, in fact, the construction of purely relational objects has enormously liberated and expanded common sense uses and enjoyments by conferring control over production of qualities, by enabling new ends to be realistically instituted, and by providing competent means for achieving them.

a determinately unified one. The transition is achieved by means of operations of two kinds which are in functional correspondence with each other. One kind of operations deals with ideational or conceptual subject-matter. This subject-matter stands for possible ways and ends of resolution. It anticipates a solution, and is marked off from fancy because, or, in so far as, it becomes operative in instigation and direction of new observations yielding new factual material. The other kind of operations is made up of activities involving the techniques and organs of observation. Since these operations are existential they modify the prior existential situation, bring into high relief conditions previously obscure, and relegate to the background other aspects that were at the outset conspicuous. The ground and criterion of the execution of this work of emphasis, selection and arrangement is to delimit the problem in such a way that existential material may be provided with which to test the ideas that represent possible modes of solution. Symbols, defining terms and propositions, are necessarily required in order to retain and carry forward both ideational and existential subject-matters in order that they may serve their proper functions in the control of inquiry. Otherwise the problem is taken to be closed and inquiry ceases.

One fundamentally important phase of the transformation of the situation which constitutes inquiry is central in the treatment of judgment and its functions. The transformation is existential and hence temporal. The pre-cognitive unsettled situation can be settled only by modification of its constituents. Experimental operations change existing conditions. Reasoning, as such, can provide means for effecting the change of conditions but by itself cannot effect it. Only execution of existential operations directed by an idea in which ratiocination terminates can bring about the re-ordering of environing conditions required to produce a settled and unified situation. Since this principle also applies to the meanings that are elaborated in science, the experimental production and re-arrangement of physical conditions involved in natural science is further evidence of the unity of the pattern of inquiry. The temporal quality of inquiry means, then, something quite other than that the process of inquiry takes time. It means that the objective subject-matter of inquiry undergoes temporal modification.

*Terminological.* Were it not that knowledge is related to inquiry as a product to the operations by which it is produced, no distinctions requiring special differentiating designations would exist. Material would merely be a matter of knowledge or of ignorance and error; that would be all that could be said. The content of any given proposition would have the values "true" and "false" as final and exclusive attributes. But

if knowledge is related to inquiry as its warrantably assertible product, and if inquiry is progressive and temporal, then the material inquired in to reveals distinctive properties which need to be designated by distinctive names. As *undergoing* inquiry, the material has a different logical import from that which it has as the *outcome* of inquiry. In its first capacity and status, it will be called by the general name *subject-matter*. When it is necessary to refer to subject-matter in the context of either observation or ideation, the name *content* will be used, and, particularly on account of its *representative* character, content of propositions.

The name *objects* will be reserved for subject-matter so far as it has been produced and ordered in settled form by means of inquiry; proleptically, objects are the *objectives* of inquiry. The apparent ambiguity of using "objects" for this purpose (since the word is regularly applied to things that are observed or thought of) is only apparent. For things exist as objects for us only as they have been previously determined as outcomes of inquiries. When used in carrying on new inquiries in new problematic situations, they are known as objects in virtue of prior inquiries which warrant their assertibility. In the new situation, they are *means* of attaining knowledge of something else. In the strict sense, they are part of the *contents* of inquiry as the word content was defined above. But retrospectively (that is, as products of prior determination in inquiry) they are objects.

# The Philosophy of John Dewey

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