



FOUR

# THE NATURE OF KNOWLEDGE

How does knowledge occur? What are the conditions that make it possible? In the *Psychology*, Dewey holds that at the root of all knowledge there are not objects out there that we must come to know, but rather, vague, amorphous "motions" (EW 2: 30), or processes of some kind, that lend themselves to creative development and reshaping. Instead of starting with objects, we start with motions, with malleable processes that are indistinct and waiting, as it were, to be developed into a world to be known.[1] The method by which these original motions are developed into a world to be known is what I have called, after Adorno, the method of rupture—out of the original motions, out of the potentiality for something, a rudimentary form of the self appears and creates sensations, and then out of its sensations it creates perceived objects, and then out of its perceived objects it creates objects in their relationships (it creates a world), and within this world the self struggles to find itself.

At no point in this development of knowledge do external objects exist at the root of what we know. Objects are rather only reshaped

motions or processes that we systematically organize into a world according to our sensations, conceptions, judgments, and acts of reasoning (EW 2:29; 178–9). But, paradoxically, we are entitled to think that these original motions, though we have broken away from them in decisive acts of rupture (in the sudden creation of sensations, in object-formation, and then in world-formation), are nonetheless compatible with our creations, are ultimately conducive to them, since these original motions allow our creations in the first place. The hope and the faith in knowledge is that as we move toward the creation of an ordered cosmos that we can know, and within which we can recognize ourselves, this cosmos will not be our own arbitrary invention, but will be what the world itself progressively enables us to say about it and what it will, in fact, become.[2]

Let us see in more detail how Dewey's conception of knowledge is supposed to work. In the first section of this chapter I will explain more fully what Dewey means by *motions* and show how they relate to our sensations. In the second section I will explain Dewey's arguments against materialism and the externality of objects, and in the third section I will discuss in general terms his alternative, idealist account of how sensations are created, if they are not created by matter. In the fourth section I will examine the two special processes by which Dewey thinks knowledge emerges out of our sensations, "apperception" and "retention" (EW 2: 78), and then in the last two sections I will explain Dewey's general account of the nature of knowledge and self-knowledge. As we will see, in Dewey's view, by moving away from external forces, creating sensations, and working on these sensations in various ways, the self is able to create knowledge. This is how knowledge arises.

## *In the Beginning Was Motion*

The immediate task at hand is to explain more fully what Dewey means by *motions* and to show how they relate to sensations, the building blocks of our knowledge. What, then, does Dewey mean by

this strange term? And what evidence does he give for the existence of motions at the root of all our knowledge?

For one thing, according to Dewey we cannot begin an account of knowledge with external objects, for, were there an object out there complete with its own structures and entirely devoid of motion, it would never affect us; it could never reach us and make its mark on us. It could never, therefore, give rise to a sensation in us, and hence could never become knowledge. In Dewey's words,

> The motion may be of the whole mass, as when something hits us; it may be in the inner particles . . . as when we taste or smell it; it may be a movement originated by the body and propagated to us through vibrations of a medium, as when we hear or see. But some form of motion there must be. An absolutely motionless body would not give rise to any affection of the body such as ultimately results in sensation. (EW 2: 30)

In the beginning was motion, not a world of objects. For it is not objects, but objects in motion (or maybe even just motions themselves qua objects), that alone can provide the impact on our organism required to affect our senses and give rise to sensations. The senses must be affected. A pure object, entirely disconnected from anything else, could not affect our senses; hence, it must be in some sense in "motion" in order to affect us, that is, it must bear a relation to us. Hence, only motions, or movements, or relationships of various kinds can be the stimuli to sensations. "For psychological purposes," therefore, "the world may be here regarded, not as a world of things with an indefinite number of qualities, but as a world of motions alone. The world of motion, however, possesses within itself various differences, to which the general properties of sensations correspond" (EW 2: 30).

So, as the motion varies, it varies in such a way that the senses are affected differently, giving rise to different sensations. The various motions by themselves, however, do not give rise to a sensation until they affect the organism in a certain way (note that all talk of bodies, organisms, and brains here is talk of certain recurring motions or

processes, not talk of external objects; there is, for Dewey, an ongoing process of motions that interacts with itself in various ways until these interactions become complex enough to form brains, bodies, and selves, which can split off from motions in sophisticated ways, as we will see). For sensations to occur, "extra-organic" motions must trigger a physiological motion in the body, and ultimately in the brain—namely, the motion of "nerve action" in the brain (EW 2:30; 20). For there are plenty of cases in which a sense seems to be affected in a limb that does not exist, or in which the brain alone can be energized to create a sensation, so that ultimately the site of affectation must be the nerve-action motion in the brain (EW 2: 33–34). The basic picture of sensations, therefore, is that "a world of motions alone" (EW 2: 30) of varying degrees affects the body; the bodily motion thus produced ultimately affects the nerve action of the brain, that is, it causes motion in the nerve centers of the brain; and when the nerve centers in the brain are affected in certain ways there somehow arise sensations, which are not, however, reducible to the brain activities themselves.[3]

We will see in a moment just how Dewey thinks the nerve centers in the brain relate to sensations. It will not be through a direct, causal connection (as I have said, he thinks sensations are the result of rupture, of sudden, novel experience). For now, however, it is important to realize that, in Dewey's view, sensations themselves are not originally given to us as distinct entities, or "atoms" of experience, although it may at first seem so. To become distinct entities, such as the sound of something falling or an alarm clock ringing, they must be worked up into these entities through the interpretive mechanisms of the mind or self. What comes first is "a certain original continuous substratum of sensation out of which the various apparently distinct sensations have been slowly differentiated" (EW 2:34–35). Extra-organic motions originally affect the body only in such a way as to produce a massive, single sensation, which the creative mind then divides up and separates out into distinct sensations of its own making, again through the inventive power of rupture. The variation in motion does eventually allow for different sensations to be possible, but in order for motions to become fully distinct sensations, we must *do* something to the

motions as they affect us. Originally they affect us more or less *en masse* and we must separate them out and distinguish them. Dewey gives four different arguments for the position that our primary sensations are indistinct and vague conglomerations of sense, waiting upon our activity to become separate sensations: a "historical" argument, a "physiological" argument, an "experimental" argument, and a "psychological" argument (EW 2: 35–36).

Historically, he says, evolution seems to show that the further we proceed down "the animal scale," the more we see organisms without sense organs at all. "At this point, sensation must be one palpitating homogeneous mass of consciousness, with no breach of continuity of kind or number, but simply expanding and contracting in intensity" (EW 2: 35). This suggests that originally there was a continuous form of sensation common to all life, since we all evolved from this same material.

Physiologically, it seems that the brain functions as "a single . . . organ," unifying all the sensations into a single feeling state (EW 2: 35). To be sure, there is a "localization" of sensations in specific regions of the brain, but the brain still seems to function so as to link together all the sensations: they "are all interwoven into one larger whole" (EW 2: 36). For example, "while . . . the auditory centre may be constantly gaining in distinctness of localization, it is also gaining in multifariousness of connections with the other sensory centres" (EW 2: 36).

Dewey notes that experimentally, tests have shown the influence of sensations on one another. Some people experience synaesthesia, for example, while all of us to some extent associate certain sounds with colors, or certain colors with tastes. That is, some senses feel to us connected with other senses, whether more or less firmly (EW 2: 36).

Psychologically, the opposing theory, "the atomic theory of sensation," creates more problems than it solves (EW 2: 36). For, if we accept that our sensations occur as distinct units, we have to explain how they get connected into the single experience that we do have of all the various senses flowing and working together. Atomists must make recourse to some special power of connection, which seems to

multiply entities, whereas the sensation-continuum view does not. In addition, we make a common mistake in our experience that helps explain the allure—but ultimate falsity—of the atomistic position: we commonly attribute the distinctness of the objects of our sensations to the sensations themselves, such as attributing a table-cloth to a particular color or a bell to a particular sound, to use Dewey's examples. In actuality, however, the sensation is not a distinct mental state, but one flowing insensibly into, and intermixed with, the vague total mass of sensations that we are experiencing, which then gets broken up in various ways through our experience (EW 2: 36–37).

The existence of an original sensuous continuum is important for Dewey's position, for if it exists it strongly suggests that objects are not original but are formed out of the activities of the self (and so are conducive to at least some of the meanings the self can recognize). Along with the idea that the self must convert extraorganic motions into a sensuous continuum, this idea that the self must also convert a vague homogenous continuum of sensations into distinctly perceived senses forms the first crucial step in Dewey's overall argument. For if these ideas are true, then Dewey has already to some extent made his point that facts grow into self-recognized meanings, and what remains is to show more fully how these meanings develop into ever-richer forms. In any case, these ideas would already put materialism on the defensive by showing that there is little reason to believe that at the basis of things lies indifferent matter, shut off from conversion into meanings enjoyed by the self. There will exist a vague mass of sensation that waits upon our activities to shape and mold it, that waits for the self's efforts for it to become actualized or realized in a way conducive to the self.

### *Against Materialism*

A further step in Dewey's argument is to address the question, which naturally arises in this discussion, of exactly how the motions relate to the sensations that arise. Do the motions cause the sensations? A dualist will answer *no*, a materialist *yes*. Dewey's view differs from

both, so it is worthwhile lingering over the precise difference between three different solutions to what Dewey calls "one of the most difficult problems of psychology" (EW 2: 37).

Dewey defines a dualist as someone who holds that there is no connection between the motions (i.e., the motions of a nerve discharge) and sensations (considered as mental states). Dewey easily refutes this view, because there is obviously some connection between the two. A damaged brain affects the nature of the sensation, and so on (EW 2:38). It is the materialist with whom Dewey more forcefully contends.

Dewey defines a materialist as someone who holds that the sensation is caused by, and is reducible to, the nerve discharge in the brain. More specifically, the materialist holds that the same law, "the law of the conservation and correlation of energy" (EW 2: 39), applies to both entities. The materialist position maintains that a wave of light, for example, neither loses nor gains any energy, so that when it hits the retina, say, "it is converted into an equal amount of energy known as nervous action, which is conveyed along the nerves to the brain, where it sets up another equal amount of energy, which results in the state we know as a sensation. It holds that along this line of changes there is no breach of continuity. Each process is the mechanical result of its antecedents" (EW 2: 39).

Against this view Dewey levels two arguments, "physical" and "psychological" (EW 2: 39–42). The physical argument is that there is a difference in kind between nerve actions and sensations. A nerve action is a motion, whereas a sensation is not. A sensation is a product of rupture, or what Dewey calls "a chasm" (EW 2: 39); it is not itself a motion any longer, but a new creation deriving from a motion, splitting off from it, as it were—an implosion from out of the motion itself, resulting in something entirely new. Strictly speaking, a sensation cannot be a motion, because a motion (or any external force) is supposedly objective; it must exist in space, it must have form, size, and number, whereas "the sensation is subjective, existing only in the mind, having no spatial nor numerical relations" (EW 2: 39). The sensation is a new creation. A sensation is certainly related to

motions, but it is not the same as a motion—it *has* no motion itself, nor does it have size, or frequency, or any other such property. Instead, a sensation is "a unique psychical state," a mental entity, sharing no properties with the motions that were presented to the senses to give rise to the sensation (EW 2: 39). The sensation of red, to use Dewey's example of a color, is tied to motions, but "as a sensation it is its own unique psychical state, having no motion, no vibrations, no spatial length nor form"(EW 2: 39). The sensation of red is a mental event, not something out there in the brain activity sharing certain properties with it. In fact, there is no similarity whatsoever between the brain activity and the red sensation. Hence, the law of the conservation and correlation of energy reaches a block when it arrives at the end of the nerve action; a quantity of energy is not carried forward into the mind. The physical nerve action cannot by an unbroken flow of energy give rise to the mental quality of the red sensation. "The law holds only of motions; to apply it to sensations is to commit the absurdity of supposing that a sound or color is a movement occurring in space" (EW 2: 39). Actually, for the sensation to occur, it must break off from the material element and arise as a new, sudden creation that is irreducible to the material cause, although the variations in the motion can be the occasion for (though not the cause of) our splitting off the sensations in one way or another.

Because of this difference in kind between the nerve discharge and the sensation, the materialist position loses its explanatory power. That is to say, it cannot explain the sensation, cannot demonstrate the causal link between the nerve discharge and the sensation that results, for a causal link presupposes identity, and here there is only difference. The materialist explanation presupposes like being caused by like—some kind of equivalent, self-same "stuff," some quantity of something, being caused by another quantity, the equivalent force of which is simply transferred from the one to the other. But "consciousness is not a quantity" (EW 2: 40). It is different in kind from the thing that is supposed to cause it by a transfer of energy. Energy cannot be transferred, and preserved in a thing, if the thing to which it is being transferred is different in kind from the thing transferring.

Moreover, materialism fails to explain why just the one specific form of motion should give rise to just the one specific kind of sensation to which it supposedly does give rise. It is "incomprehensible why one mode of motion should give rise to that psychical fact which we know as color, and another to sound. So the knowledge of the difference of rates of rapidity in the musical scale does not enable us to explain why one rate should result in a low note and another, more rapid rate, in a higher" (EW 2: 41). If you know that the color red always occurs at a certain frequency of light waves, nonetheless this tells you nothing about why this frequency gives rise to the sensation of the color red. Once more, an identity in kind seems to be lacking between the motion and the sensation. Or, as Dewey puts it, in even stronger terms: "No identity between the conscious facts and the various forms of physical motion can be discovered which will enable us to explain one by the other" (EW 2: 41).

Dewey augments his physical argument against the materialist view with a psychological argument. The psychological argument is that material motions are never known independently of the mind; they exist only as known phenomenon. "The fact of motion . . . is not a fact which precedes knowledge and can be used to account for it, but it is a fact *in* knowledge" (EW 2: 41). Motions are something whose existence we seem to have knowledge about, especially since they help us to account for the origin of our knowledge, but we never really get outside of our own minds to grasp the motions pure and simple; hence, the motions cannot serve as the external cause of our knowledge, its ultimate explanation. The object does not explain the subject. The reverse rather is the case: the subject explains the object; the knowing mind explains the thing known. What needs to be shown is "how the subject, as knowing, is involved in all those facts which the physical sciences treated merely as existing facts, overlooking that they are in reality facts *known* to exist, as facts in relation to mind" (EW 2: 41–42). The idea of external motions has explanatory power, but it does not follow that we can ever know external reality in its own externality and know that its features are the cause of our knowledge.

Having discounted materialism to his satisfaction, Dewey pushes on to give his own account of the relation between nerve discharges and sensations. There is a connection, obviously, but what is it? The sensation cannot be a copy of the nerve discharge, the result of a similar feature passed from one to the other, for the quality of the sensation qua sensation is not *in* the brain activity—color, for example, is not in brain activity in the same way as it is in sensation. Brain activity has no color. Again, the two are different. Hence, one cannot be a mere copy of the other.

The connection seems to be, rather, that the one occasions the other. The brain stimulates the mind into action. The mind responds, in its own unique fashion, and creates sensations as its own "virtual" product, one not reducible to the brain charges that occasioned the mental activity, but a product that "the facts" of the brain charges themselves allow (EW 2: 42). The nerve action is not the cause, but merely the occasion, for the mind to spring forth with its own creations of meaning beyond the brain activity. In Dewey's words, "a sensation is not the simple affection of the soul by some bodily change, although the affection is a necessary prerequisite to sensation. The sensation is the state developed out of and by the soul itself upon occasion of this affection" (EW 2: 42–43). As he sees it, the mind is creative—engaged in a kind of virtual production of reality—when the brain activity stimulates it into action. "The soul, when thus incited to action, responds to the stimulation with a characteristic production of its own, whose appearance, relatively to the physical phenomena, is a virtual creation; that is, cannot be in any way got out of them" (EW 2: 42).[4] And again: "Physical energy is always external; it never acts upon itself, but is transferred beyond itself. . . . But the mind has the power of acting upon itself and of producing from within itself a new, original, and unique activity which we know as sensation" (EW 2: 43). The brain activity serves, in effect, to elicit what is an original response, but also what is a mechanical response, in that the brain activity elicits the response without our direct awareness and always with certain definite responses of characteristic sensations. The *forms* of the mind, in essence, are awakened into their own

mindlike activities of sensory production upon the occasion of nerve activity. The facts of nerve activity occasion the virtual productions of mind, which go beyond the facts in their meaning, and yet the virtual productions grow out of these facts in the sense that the facts permit the meanings they occasion to be true of the facts. The brain activity in no way *resists* the virtual production of the sensation of red, for example, or the concept of love or justice, and so on, even though the concept is irreducible to the brain activity.

This is a remarkable view. We will have occasion to assess it in more detail later, but for now it is important to note that Dewey here avoids both dualism and materialism in accounting for sensations. Dewey may appear to be a full-fledged dualist, since he speaks about the mind as something different from matter, with its own unique mental productions, and so on. But he does stress that the mind or self is only really a process or activity. As he puts it, the "self is, as we have so often seen, *activity*. It is not something *which* acts; it is activity" (EW 2: 216). His basic view would then be one in which the self is a swirl of motions that congeal into rupturing pulses that, somehow, create meaning; in which case the self is not a substance, not a distinct entity imposing its forms, but rather part of one overall developing process, in which the part to be played, as it were, by the self is to break off from the original motions and to develop them beyond themselves. We may well have a process philosophy before us, with a process view of the self, which complicates the simple identification of Dewey's position with dualism, not least because dualism is the view that reality consists of two distinct kinds of *substance.* Dewey's view seems to be that there is really only one stuff, motions, some portion of which—call it *minds*—forms into patterns with their own distinct responses, which invent, as part of their virtual creations, sensations for themselves that are distinct in quality from the original motions themselves.

### *The Birth of Sensations*

The next step in Dewey's argument is to explain how the mind develops its sensations. In particular, we need to see how Dewey thinks the

original sensuous continuum gets differentiated into distinct sensations. Thereafter we must explore how he thinks these distinct sensations get further developed into our knowledge of objects, as well as into our knowledge of ourselves, the subjects who are and who know. How is it that the mind, once it produces the vague sensuous continuum, differentiates it into actual sensations, such as red and cold and so on? How does the mind then take up these distinct sensations and use them to build up its knowledge of the world, that is, of the actual, real objects that exist, and of our own self that knows them? And how does it do this, all the while, in such a way as to show that the world is in fact meaningful, full of significance for us, and not simply a barren desert of indifference?

We have seen that according to Dewey, motions awaken the mind into its own distinctive activity. At first the result is a vague sensuous continuum, already quite separate in quality from the motions themselves. The sensuous continuum represents how I at first take in and process the motions, what they mean *for me*, at the lowest level of my experience of them. "The original sensation has a maximum of mere feeling or emotional quality, and a minimum of intellectual value. It is simply the condition, the inner affection of the organism itself; it tells or reports practically nothing. It gives us no qualities of objects. Going on from this point, we may classify our present sensations" (EW 2: 46). But the sensuous continuum serves as the medium from which I can draw out and begin to separate distinct sensations. The mind learns to take another step away from the motions by breaking up this sensuous continuum into separate sensations and gradually learns to give them intellectual or abstract value as well.

We can begin to break the continuum into separate sensations because "no special sense organ can be purely passive, even physically speaking, in sensation. It must adjust itself to the stimulus. . . . We must sniff with the nostrils. The tympanum of the ear must be stretched; the eye-lenses must be accommodated, and the two eyes converged" (EW 2: 47). The structure of our bodies already lends itself to the breaking up of the continuum. The mind, by its own effort in certain directions, as we will see, discriminates these sensations

even more through its own interpretations, referring one sensation to another to give it a sense of its import in relation to the others. The sensations then take on intellectual value in addition to vague emotional value, and we gradually form our sensations into objects, and eventually a whole world, that we know.

The original sensuous continuum, Dewey tells us, can be compared to our overall "organic or general sensation" as we are experiencing it at any given time; or to the experience of drifting into sleep, when one by one the various senses fade out and we are left with a hazy, fading, homogenous state of awareness; or to the experience of an infant before it learns to differentiate things (EW 2: 45). Using these analogies, "we can form some idea of what a shapeless, vague, diffused state a sensation is to, say, an oyster or a jelly-fish" (EW 2: 46). Such is the kind of sensation that underlies all of our experience and forms its basis. It is indistinct. But it can become richer and more detailed through our different activities, just as seeing is more refined in its efforts than smelling (EW 2:46–47). "The eyes are constantly on the lookout for sensation. Instead of a mirror waiting for impressions, like the lower senses, they are a dark lantern rapidly moving and focusing here and there" (EW 2: 47). This higher level of sophistication, moreover, is achieved not by the sense organs alone, but by higher forms of intellectual discrimination. To have distinct sensations, we must first divide up the sensuous continuum; we must intellectually discriminate it into separate parts. The sense organs already push us in this direction, and the "discriminating" power of the mind completes the process. The eye may lead me to slightly distinguish the color of red, for example, from the sensuous continuum, but the concept of red is needed to identify a sensation that is definitely and distinctly red and to complete the process (EW 2:47; 44). We may think we simply open our eyes and possess ready-made sensations. "But, in reality, this is a complex psychical product, formed by judgments which are the interpretations of the sensuous material and not the material itself" (EW 2: 65). The sensations we experience are the product of our own activities and develop along the lines of our activities.

In general, sensation develops from the original sensuous continuum into particular, distinct sensations, into objects in space and time, and then into objects with definite connections to others, objects in systematic arrangements, and eventually into "an ordered, harmonious world, or cosmos; not . . . a chaos" (EW 2: 76). The self further adds its own ideal contents to the system in a gesture that adds significance to life. "The epic of Homer, the tragedy of Sophocles, the statue of Phidias, the symphony of Beethoven are *creations.* Although having a correspondence with actual existences, they do not reproduce them. They are virtual additions to the world's riches; they are ideal. Such creations are not confined to art, nor are they remote from our daily existence" (EW 2: 77). Our idealizations transform a flower into a symbol of love, for example, or certain modes of action into kindness, or a handshake into friendship, and so on. Our idealizations are the source of all the deeper meanings of life, all that makes a life worth living. The meanings never derive from sensations by themselves. "When shall we *see* justice? Who has touched righteousness? What sense or combination of senses gives us the idea of the state or the church; of history, as the development of man; of God, or the source and end of all our strivings?" (EW2: 77). The idealizations of life are the basis of meaning, not sensations or given particulars. The self shapes the world as meaningful; it does not find meaning already there. It seeks harmony; it does not find harmony in things themselves as they are.

Lastly, the self also shapes itself through the development of the sensuous continuum. A knowing self evolves; it learns about itself through its actions and affections, through how its sensations occur and respond in the world; this is a self that grows and develops along higher and higher cycles of meaning, as we will see—a self, in addition, that becomes more and more real in the world as it injects, through will, its own creations into the heart of things (EW 2: 75–78).

### *Apperception and Retention*

There are two mental processes by which all this occurs: "apperception" and "retention." *Apperception* is the process whereby the mind

acts on "sensuous material" and structures it after the mind's own pattern. *Retention* occurs when the structured, "apperceived" contents that make up our experience "react upon the mind and develop it," giving the mind new meaning and direction pertaining to itself (EW 2: 78–81; 131).

In terms of strictly intellectual content and processes, only that which is meaningful occurs to the mind. In other words, all "inquiry," or "investigation," all thinking, is of what is "*significant*." "Whatever is meaningless has no point of contact with intelligence or the apperceiving activity of mind. The main-spring of our cognitive experiences is the more or less conscious feeling that things have meaning" (EW 2: 78). This meaning occurs, moreover, when some sensation "is connected in an orderly way with the rest of our experience. The meaningless is that which is out of harmony, which has no connection with other elements." And again: "Relationship is the essence of meaning" (EW 2: 78–79).

There is, therefore, no one, first, particular sensation. A sensation becomes particular in and through its relation to other sensations. And sensations get into relationships with other sensations through the ordering and connecting power of the mind—through apperception and retention—so that we grasp the intellectual meaning of sensations through relating each sensation (either all at once or sequentially) to other sensations *that we have already experienced*. The key to the formation of intellectual meaning is the use of our past experience of some sensations to inform our present understanding of some new sensation, that is, to connect it up with other sensations of ours and hence to understand the new sensation in terms of its relationships. The relationship occurring between sensations—the essence of meaning—is provided by the self and its grasp of past events, not by a mind-independent world of external objects. Dewey gives the following example to support this position. Suppose that a child is presented with an orange, which is new to him. The child will have several separate sensations, such as tangy (when he tastes it), a certain texture when he touches it, and a visual sensation of the color orange.

Cognitively, the child must connect these sensations into a unified whole to understand that they all refer to a single object, the fruit we know of as an orange. But this is not enough. The child must also recognize the object as an orange to be able to really know it, and the only way he can do this is to connect it with other objects that he already knows, for example fruit, apple, banana, and so on (EW 2: 79–80).

There are at least two objections to this position that Dewey entertains. The first is that, as a matter of fact, we *do* know about things without past experiences, and we learn everything we need to know about such things simply by investigating them for the first time. The second objection is that there must be *something* we know at first, a first experience, if we are going to be able to base all our knowledge on past experiences; for otherwise, we would never know anything. All of our experiences would be referred back to a previous one and this to a previous one before that, and so on, without any one experience gaining the support of a known thing to begin with. To make sense of any one known thing, it seems there must have been a first knowledge, in infancy, say, on which all of our later and adult experiences are built up (EW 2: 80–81).

But the first objection, Dewey maintains, is a real mistake. For with any new item presented, we must first at least know that it is a thing, in order to be able to recognize it (if we did not know that it is a thing, we would never even be able to grab it or pick it up to try to gain more information about it)—that is, we certainly must base our grasp of it on *some* past experience, an experience with "things," or something that exists. And the same goes for its other qualities. If "a strange fruit" were presented to us that we had never experienced before, we would have to touch it and taste it, and so on, and refer the touch and taste to other fruits that we had known, in order to place the strange fruit in the order of fruits and come to understand the kind of fruit it is (EW 2: 80).

The second objection appears to be more serious, but Dewey makes short work of it. The objection simply misses a key feature of

what it means to know. Knowledge "is a matter of gradual growth. The first years of childhood are spent, not so much in knowing things, as in getting experiences which may be brought to bear in the future, and thus enable him to know. . . . The child spends his early years in *learning* to know" (EW 2: 81). There does not need to be a first known thing in order for one to connect any would-be known thing with past experiences. All there needs to be is some past experience, and this the child acquires before he or she actually comes to know anything in particular.

Let us now consider in more detail the actual processes of knowing and see how they function to transform sensations into ordered objects in their relationships, that is, into intellectually meaningful objects. In other words, let us consider in more detail how apperception and retention work.

The power of apperception takes three different forms: "association," "dissociation," and "attention" (EW 2: 81). *Association* is the process whereby "*the activity of mind never leaves sensuous elements isolated, but connects them into larger wholes*" (EW 2: 83). *Dissociation* is the process whereby the mind separates some part from the whole. *Attention* is the process by which the mind focuses on the separated parts and "*attends*" to them for itself (EW 2: 81–82).

There are two forms of association: "presentative" and "representative" (EW 2: 85). *Presentative association* is the mechanical bringing together of simultaneous sensations into a unity. "The mind's hunger for the fullest experience possible," "the maximum of significance," leads it, for example, to unite "a rod striking a surface at certain intervals" with "a noise," even if the two are unrelated and not causally connected (EW 2: 85). The mind nonetheless puts them together as it puts together all its separate sensations (a sensation by itself is unimaginable). All of the simultaneously occurring separate sensations, given separately through the different senses (as they must be), are brought into a whole, "*into one total maximum experience*" (EW 2: 85), as for example the different properties of an orange—its taste, smell, sight, and so on—are brought into the single experience of the

fruit.[5] We then have the perceived object of an orange that sits there before us.

*Representative association*, or the mechanical association of present sensations with past ones, takes two forms, "accidental" and "intrinsic," which Dewey also calls "external" and "internal" (EW 2: 87–88; 97). *Accidental association* is the mechanical bringing together of present and past through an arbitrary connection in our experience, as when the smell of an orange reminds me of a certain person, since the person happened to be eating oranges when I met him. The present experience of the orange enlarges its meaning due to the inclusion within it of my past experience with the orange and who ate it. The present experience is now not just of the orange, but also of this person who ate it. *Intrinsic association* is the mechanical conjunction of present and past based on some real similarity between the sensations, for example the connection of the experience "dog" to the various dogs that I encounter, whether a poodle, German shepherd, mutt, or other type of dog (EW 2: 95).

What happens in both accidental and intrinsic association is fusion of past and present experience into a single new idea, into one idea, not several disconnected ones. "If the perception of a flower recalls the spot where I picked it, it is because the flower and the place are members of the same whole; they are organically united in the same activity of apperception; one has no mental existence without the other" (EW 2: 90). The past experience is dragged along into the present one, becoming an essential part of it, and "the train of ideas is formed" (EW 2: 88). Ideas begin to move and flow as connected parts of the same overall experience, as opposed to separate ideas chopped up and unrelated to each other. Through both these processes, accidental and intrinsic association, the mind is freed from the unified sensations of the given moment and is able to expand to include wholly new ideas that combine present and past, thereby enriching the experience. The mind is thus able to grow and enlarge itself. "It enriches its present experience by supplying the results of previous experiences" (EW 2: 87). It is able to create new, enlarged experiences

that are supplied by it and that take it well beyond any given, determining fact.

The crucial feature of all forms of association is that they are mechanical. We can see that the mind imposes unity upon its sensations; Dewey notes that in hearing someone speak, for example, "I do not apperceive separately each sound, and then piece them together. I take in the idea of the whole sentence. . . . [T]he synthesis precedes analysis" (EW 2: 90). But this imposition is mechanical. I do not consciously think about it. It is the result of habit; and the great function of habit is that it frees the mind to function in other ways. One of these other ways is by dissociation.

*Dissociation* is the power of the mind to separate its given sensations in the train of ideas one from the other, so that any divisions that come to exist in our experience are the result of the mind's own activity (just as are any unities that come to exist in our experience, as we have seen). The mind does not do this based on any inherent differences in the sensations—for taken on their own terms, "each is worth as much as every other" (EW 2: 108). Rather, the mind places its own "*interest*" into the train of sensations, and this interest is what divides up the sensations and makes some stand out over and above others.

> We have to recognize that the meaning of psychical life is determined largely by the differences of *value* that its elements possess. This difference of value is not due to their existence as data, for as existences each is worth as much as every other; it is due to their relation to the mind, that is, to the *interest* which the self takes in them. The interests of the self are the factor which is influential in breaking up the hard rigidity of psychical life governed wholly by the principle of association, and introducing flexibility and perspective into it. (EW 2: 108)

Dissociation is the mind's ability to part ways with habit, once habit's patterns of association have provided enough stability for mental life to build upon. This ability is the result of the self's own interests. Relative to the interest the self takes in certain sensations, our sensations—already unified by presentative association and enlarged by

representative association to include past experiences—can grow even further, and along the lines of what is important to the self. Certain parts of the field of sensations can stand out for special consideration. This then frees the mind to utilize the additional power of attention, which, as we will see in a moment, will empower our mental life even more, allowing us to attend to, concentrate upon, and reshape the train of experiences we are having.

Dissociation divides into two forms, based on the type of interest the self takes in its sensations: "natural" and "acquired" (EW 2: 108). Dissociation based on natural interest further divides into two kinds, "quantity" and "tone" (EW 2: 108–09). The self naturally tends to take an interest in sudden or intense quantities of sensation, and certain tones are either "agreeable" or "disagreeable" to it, and it takes an interest in them accordingly. These elements of the experience are then separated out from the stream of experience and are noticed and dwelt upon, while the other elements recede into a kind of background. This shows again that the mind, and not the bare fact of a sensation, plays a crucial role in the sensations that we come to know.

Dissociation based on acquired interest is very important; indeed, "advance in psychical life depends largely upon the power of advancing from natural values to acquired" (EW 2: 109). Because of this advance—that is, because the self is able to take an interest in experience over and above what is only naturally conducive to it, in things that it learns to be interested in throughout its life—the self can advance beyond mechanical association and render present experience even more meaningful, placing in the present experience some *significance* relative to what the self has learned in the past. "Acquired interest . . . necessarily leads the mind beyond what is actually present to other elements in our experience which give what is present its attractive power. The mental life of an animal always remains upon a low plane, because it is taken up with the interesting features of the *sensations* as such," whereas due to the power of our acquired interests, which we learn to adopt beyond only natural interests, we can be "led beyond" our sensations "to relate them to each other in a meaningful way" (EW 2: 109).

Acquired values are of two types, familiar and novel (EW 2: 110–13). Familiar values are of two types, the more recent and the repetitious. The more recent experience figures more prominently in our psychic life, whatever that experience happens to be (whatever its acquired content is), and likewise an experience repeated over and over again begins to form our bedrock, familiar basis for having any experiences at all. It becomes what is near and dear to us, a part of our lives; while things less related to it fade out into experiences we are more removed from and less interested in. Novel values are those that are acquired through their sheer novelty. "It is the new, the unfamiliar, that attracts notice, and that is especially emphasized in consciousness" (EW 2: 110–13). Familiar and novel values work together to produce developing experiences for us, in that familiar experience lets our past inform our present, while novel experience lets us see the present as different from the past (EW 2: 114).

Dissociation in all of its forms is a step toward allowing the mind's power of attention to set to work. Because some elements of experience are highlighted in dissociation and made the focus of our mental life, the mind can attend to them. That is to say, due to dissociation, some sensations are released from the routine and mechanical ordering of association. Here Dewey stresses the power of "the negative function" of the mind: "If left to itself," mechanical association would create "bonds which tie the mind down to objective data, without allowing it free play according to its own interests" (EW 2: 115). He explains: "The perfection of the principle of association would be reached when the mind was governed by purely mechanical principles, and its activity controlled by external considerations. The negative function of dissociation is to break up this control" (EW 2: 115). Thus, the negative power of the mind, which breaks the chains of objective order, is an essential asset. It sets "the mind or self free from its subjection to purely objective influences . . . causing it to act for *ends of its own*, that is, for *ideal or internal ends*. In short, dissociation paves the way for *attention*, which is simply this mental activity for self-regulated ends" (EW 2: 115). Freed from having to obey the mechanical order of sensations by the power to select some of them

at the expense of others, the mind is "set free" to pursue "its own ends," to go with the direction of its own interests. When it does thus go entirely in the direction of its own interest, this is *attention*.

It is with attention that the mind truly begins to introduce idealizations into its experiences, and to complete the process of rendering known objects as things that occur in relation to the mind, not independently of it. Attention is the process of actively selecting some sensations to focus on relative to some aim or purpose we have. "Attention always selects with reference to some end which the mind has in view, some difficulty to be cleared up, some problem to be solved, some idea to be gained, or plan to be formed" (EW 2: 119). This end is supplied by the self, which organizes sensations according to its interests. More particularly, sensations are selected that may serve as "signs" for future experiences, for what to expect; sensations that do not serve this function get dropped. They are not even noticed at all, and form no part of our knowledge of a thing. Sensations that may serve as signs of things are selected (EW 2: 120). The sense of how to interpret a sensation as a sign is provided by our past experiences. Our past experiences direct us to pick one thing as a sign of things and not another. The sensations selected in this way are taken up, moreover, in terms of their relations to other sensations. It is only when a sensation of a thing occurs in a relation to other such sensations that it has any intellectual meaning and purport. A bare sensation, one that cannot be related to another sensation, has no intellectual value. If you are doing a logical proof, for example, and you are given only the symbol *S*, you cannot precede with the proof; the bare symbol has no significance. It gains significance only by being connected to other symbols and its function relative to them. It gains this connection, moreover, only from the self bringing its past experiences to bear on the symbol *S* and its relation to other symbols. For a person with no familiarity with formal logic, the symbol has no connection to the other symbols.

So, the self selects the sensations that will matter for it—the ones that can be taken as signs of something relative to achieving its interests and ends, and the sensations gain their significance as signs in

relation to the other sensations with which we are familiar, which we bring to bear on the sensations from the resources of our past experiences. In doing these things, the self is, in effect, idealizing its bare sensations. By *idealization*, Dewey means "the process by which the self, *acting upon the basis of its past experiences,* interprets sensations" (EW 2: 131). In knowledge, no fact or sensation exists by itself; it exists only as it is interpreted by the self. "Knowledge always consists of *interpreted* sensations: elements which have gained meaning by their connections with other elements, of which they serve as signs" (EW 2: 120). As an actual existence, a sensation has no meaning. Its meaning consists in how we take it up in its relationship to other sensations, and this relationship is supplied only by the self and what it has been. To use Dewey's example, the act of swinging your arm has, as its actual existence, only the felt muscular sensation. But its meaning consists in the *reason* we are doing it, the end to be achieved by doing it (EW 2: 120–21). Its meaning is ideal. It goes beyond the actual existence of the felt sensation to something else, to an aim and understanding of what we are doing, which we acquire because in the past it has meant this same thing. We might also go further than Dewey here and observe that the meaning behind the swinging always exists in relation *a wider system* of other sensations and their meanings supplied by past experience—for example, that swinging your arm is the act of throwing a pitch in a game of baseball. We can then grasp Dewey's point. Considered by themselves, the swinging of your arm, the people positioned a certain way on a field, the crowd, and so forth—these bare sensations do not mean baseball. Considered as idealized meanings beyond what is actually present, and relative to how I have taken these experiences before, that is, as throwing a pitch, playing a game, scoring a point, striking out, and so forth, these sensations gain meaning. And they gain this meaning only in relation to each other. You understand what throwing a pitch means only because you understand what scoring a point means, and so on. "*Meaning* always takes us beyond the bare presentation, to its connections and relations to the rest of experience" (EW 2: 121).

Another way to put this last point is to say that knowledge occurs when we unify our sensations into a whole. We must relate each of the parts to the others if we are to understand any of them. But if our only action was to unify our sensations into a total, homogenized whole, all things would blend together and we would have no knowledge of anything in particular. We must also differentiate our sensations at the same time. That is, we must be able to distinguish one sensation from the other in the whole of sensations that we grasp. Knowledge occurs when a unity of sensations occurs alongside a keen discernment of the differences between the elements that are unified. "While the goal of knowledge is complete unity, or a perfectly harmonious relation of all facts and events to each other, this unity shall be one which shall contain the greatest possible amount of specification, or distinction within itself" (EW 2: 130). In essence, knowledge is an understanding of how things fit together, grasping the role specific things play in the overall system of known things as well as possessing thereby an understanding of the overall system. The mind relates its sensations to each other in this way, and there is knowledge.

## *The Nature of Knowledge*

As soon as we define knowledge in this way, as the mind's relating of sensations to each other into a unified system of distinct parts, we can see clearly that knowledge is a process of idealization, and that its features are provided by the self, and not the object. We might state the argument in something like syllogistic form. "Attention . . . is a relating activity, and . . . there is no knowledge without relation"; therefore "there is none without attention" (EW 2: 130). In other words, knowledge requires relations; it is attention that organizes and provides the relations; and so knowledge requires attention. But attention is an act of idealization. So, knowledge requires an act of idealization.

The upshot of this view of knowledge is that "experience . . . or the world of known objects, is not a colorless copy of what actually exists,

stereotyped or impressed upon us, but is an experience produced by the mind acting according to the interests of self in interpreting sensuous data" (EW 2: 120). The self always shapes the mass of sensations in its own way, so as to grasp and master them in an orderly, intelligible fashion, relative to its interests.[6] The result of this shaping, and not a mere passive reception of something external, constitutes knowledge. "We know with what we have known" (EW 2: 125). And we know with our interests in mind, with our own acts of attention shaping the product of what is to be known.

But this means, in effect, that all knowledge is about "self-realization" (EW 2:216). We know in order to become. Attention, as we saw, is relative to the interests and ends of the self, and is organized to help us fulfill these interests and ends. "The various activities of attention" [namely, selection of sensations, their interpretation based on past experience, and the relation of sensations to one another]

> are based in the interests of the self, and directed towards ends which will satisfy the self, by fulfilling these interests. Its process is such a direction of its own contents that these ends will be reached. Starting-point, goal, and way are all found in the self, therefore. Attention is thus a process of self-development. (EW 2: 118)

We pay attention in order to realize our interests, that is, in order to realize ourselves. Acquiring knowledge is one of the ways we pay attention in order to realize our selves. We gain knowledge in order to learn about the world in which we live; and we want to learn about the world in which we live in order to realize our ends within it. Since, in the process of knowing, we are shaping and constructing what we know relative to our selves, all knowledge is a phase of our self-realization.

Moreover, knowledge is always about "self-knowledge." Since to know an object means, in effect, that "the mind puts itself into it," when we know an object we know ourselves (EW 2: 125–26). Dewey puts the point in this way:

> The fact known is not a bare fact, that is, an existence implying no constructive activity of intelligence, but is idealized fact, existence

> upon which the constructive intelligence has been at work. That which is not thus idealized by the mind has no existence for intelligence. All knowledge is thus, in a certain sense, self-knowledge. Knowing is not the process by which ready-made objects impress themselves upon the mind, but is the process by which self renders sensations significant by reading itself into them. (EW 2: 126)

In coming to know the world, I come to know myself. I learn how I organize my experiences and to what end. I meet myself, and become familiar with who and what I am, through engagement with the world. Now we can see the implications: there is no alienation from the world of objects; I am at home among them, for they are what they are through me. The self is putting its own significance and order into its sensation, "which as bare existence it does not have" (EW 2: 122). What the self knows, therefore, in coming to know a sensation and its meaning, is its own self. It comes to know an organized world of objects—an intelligible ordering of things, which meets its own need for intelligibility and order and in which it can find its own distinct place.

### *Self-Knowledge*

We have considered the three forms of apperception, or the way the self organizes its sensations: association, dissociation, and attention. The next step is to explain *retention*, or the way the apperceived material will "react upon the mind and develop it" (EW 2: 131). For in gaining knowledge, the self does not simply impose its structure on sensations; the structured sensations also inform the self and allow it, in effect, to enlarge itself, to become different, relative to the knowledge gained (EW 2: 130ff.).

The important point about retention and how it functions is that it is not a process by which contents are somehow added to the mind, as if the ideas had independent existence and the self were a mere container, as the dualist might maintain. Nor is retention comparable to the self having in mind "faint or unconscious copies of its original experiences" (EW 2: 134), as some realists would hold. What happens

instead is that the ideas we have once experienced become totally intertwined with who we are; though the original sensation of the idea has passed, the idea has had an effect on us, molding what we presently are. We therefore carry on the existence of the past content in our very selves (EW 2:132).

The process works in the following way. At first, as infants, we have no ideas, no organized sensations, no knowledge, no character or self. We do have certain capacities for experiencing things, however, and these we use to have experiences. One of these capacities is the power of retention. Retention is the power to preserve apperceived content, to infuse it into ourselves. A simple example will help explain the process:

> The infant comes into the world with no *definite* tendencies and abilities except some inherited ones, which are instinctive. These he uses to gain experiences with, but these experiences once got, immediately react upon the mind and develop it. They organize it in some particular direction. The mind of the child which has apperceived his nurse is not the same that it was before; he has formed an organ in his mind for the performing of like apperceptions in the future. (EW 2: 131)

The mind itself expands, so that from an original capacity to apperceive and on the occurrence of a new sensation (the sensory elements related to the nurse) apperception occurs, and then a first vague experience is had. Due to the power of retention, the first vague experience determined by apperception does not disappear from the mind. Instead, the mind has already changed, and has become more than it previously was. It is now a mind with a further capacity to apperceive, one that can apperceive sensory elements related to a nurse, and can begin to know the nurse therefore, and act eventually in relation to the nurse in a fuller way.

The process can be likened to what happens physiologically. Physiological growth is "not preservation of copies of the original molecular motions, but such a change in the structure of the nervous system that, in responding to future stimuli, it acts in a more complex way, containing elements due to the former motions" (EW 2: 134–35). So,

too, with the mind: "The mind grows, not by keeping unchanged within itself . . . copies of its original experiences, but by assimilating something from each experience, so that the next time it acts it has a more definite mode of activity to bring to bear, one which supplies a greater content to whatever is acted upon" (EW 2: 134).[7]

Or the process can be likened to the growth of a tree. Just as the tree is not passive in its reception of the materials of the earth, "but reacts upon them and works them over into its living tissue," so, too, with the self (EW 2: 132–33). The mind or self takes the apperceived content, which it has already idealized, into its own "living tissue," that is, into the sphere of its own mind, and transforms it yet again by making it part of the self. The self, accordingly, is changed and enlarged by the process as well and will experience new things.

Moreover, it follows from what has been said that retention is an activity of the mind in which idealization is added to idealization. Dewey explains the point as follows:

> In attention, as soon as the mind is brought to bear upon the sensation so as to read itself into it and give it meaning, the apperceived content becomes a condition which determines how the mind shall act in the future. Every element thus apprehended and absorbed into the mind gets an ideal existence, and becomes the means by which future idealizations, that is, acts of attention, are exercised. Attention forms *apperceptive organs*, in short. (EW 2: 132)

Retention is simply the capacity for increased apperception. An added capacity to apperceive in a new way is formed with every experience, and this addition is retention. This means that there is an initial idealization—when sensations are formed and apperceived—and that this idealization only grows, or advances, with the ongoing experiences of the self and its increasing capacity for apperception. We are about as far removed from any original "object," wholly unattached to the self, as we could be. "All knowledge is . . . self-knowledge" (EW 2: 126), in which the self comes more and more to realize itself, that is, to recognize itself, and not some foreign world of independent objects, as the basis of what it knows. At the basis of the facts of the world are the

self's own meanings, which it alone has given to the facts. They are the meanings of an ordered and intelligible arrangement of sensations that the mind needs to possess, not simply the meanings of things in chaotic juxtaposition with one another.

We can begin to see, therefore, how Dewey's philosophy of rupture responds to modernism and the predicament it holds for humankind. In contrast to the modernist view of the rigid separation between human meaning and the facts of the world, Dewey's view renders the facts of the world meaningful. The self negates the given, goes beyond the external motions that are presented to it, and transforms them into meanings based on its own ideals, its own version of things, ever hopeful that these ideals are not simply its own but are one with the original external motions that occasioned them and from which the ideals broke off. To be sure, the ideals we seek for and create in some sense remain elusive to us, in that they operate unconsciously in our minds to shape external motions in a certain way. But in any case, in our construction and pursuit of these ideals, the external motions gain more and more meaning on a tentative basis, objects become known, and ultimately, Dewey will say, we realize that the meaning of known things lies in their pursuit, not in their attainment. The meaning is in the progress we make away from external motions, away from the given state of things, toward ideals. The meaning of the world comes to rest, not in a complete realization of the ideal, but in the drive that inspires us to realize it and thus to create ideal meanings and known things.

We turn next to a fuller consideration of how our knowledge itself conforms to this conception, that is, to how *what* we know (not only *how* we know) demonstrates that known objects are our own creations, the creation of which helps to give our lives meaning.