Metaphysics and Evolutionary Biology

1. Continuity with the Classical Tradition

Dewey's naturalistic period is characterized by the substitution of ontological issues for the methodological ones that dominated the experimentalist phase. This change in emphasis resulted from his continued preoccupation with certain concerns that had marked his idealistic period, two of which are relevant here: (a) the recognition that consciousness must be viewed as active as well as passive; and (b) organicism. From Morris, Dewey had come to appreciate the active role of intelligence in the acquisition of knowledge; and in Hegel, he had found a well-worked-out expression of organicism, a doctrine that had attracted him since his undergraduate years at the University of Vermont.

Each of these themes dominates in one or another of the subsequent periods of Dewey's development. The activity of intelligence is transformed, in his new logic, into the activity of the inquiring individual, with experimentation now playing the active role previously reserved for intelligence. Thus Dewey preserves a doctrine from his earliest phase by reformulating it in a non-idealistic manner.

His naturalistic period may be viewed as an attempt to make a similar reformulation of the notion of organicism. In this chapter, I shall begin to explore the positive aspects of this attempt. The previous chapter also dealt with Dewey's naturalistic phase, but the analysis presented there so concentrated on the objections to traditional theories found in his writings of this period that it could easily lead to a misrepresentation of his actual thought. Many of the ontological doctrines Dewey rejected were identified with Greek thought, often specifically with the philosophy of Aristotle. It may thus appear that the relationship between Dewey and these ear-
lier philosophers can be described only in terms of discontinuity.

But such an interpretation, though understandable, would be one-sided. John Herman Randall has argued for a different thesis, pointing out that if there is any philosopher whom Dewey most resembles, it is Aristotle. The relationship of Dewey to Greek thought must be looked at in terms of both continuity and discontinuity. The previous chapter stressed the latter; these next chapters will redress the balance.

They will deal with the same books as Chapter 4, *Experience and Nature*, *Art as Experience*, and *The Quest for Certainty*, and will show how Dewey fits into the tradition of the great classical thinkers who concerned themselves with ontological issues. His solution to those problems will bear the stamp of his unique genius, of course, but this difference should not completely overshadow the similarity of concerns. The most important indication of continuity can be found in his understanding of what the metaphysical enterprise entails.

One reason that Dewey comes to face the same issues as a classical metaphysician such as Aristotle did is that they share a common understanding of metaphysics. The traditional ontological language of “being” was one that Dewey never found very congenial. As a result, his definition of metaphysics may not appear, at first glance, to be similar to Aristotle’s description of it as the study of “being qua being.” Nonetheless, if Dewey’s formulations are studied carefully, it is clear that he is indicating a field of study like the one presented in Aristotle’s *Metaphysics*. Aristotle explains, at the beginning of Book Gamma, that what differentiates metaphysics from other studies is the breadth of its subject matter. Other disciplines “cut off a part of being and investigate the attribute of this part,” whereas metaphysics “treats universally of being as being.” By contrast, biology, for example, does not treat of being as being, but only of living being. Mathematics, Aristotle’s own example, deals with being in its quantitative dimension. Since no other discipline studies being as being, a separate field of study is needed which will dedicate itself to this task. That field, which Aristotle calls “first philosophy,” has come to be known as “metaphysics.”

Dewey’s characterization of metaphysics is that it involves the “cognizance of the generic traits of existence” (EN 50). When he explains what he means by this phrase, the similarity with Aristotle
is manifest. Dewey argues that metaphysics has a subject matter of its own which is genuine and worthy of exploration. "This genuine subject matter is the fact that the natural world has generic as well as specific traits, and that in one case as in the other experience is such as to enable us to arrive at their identification." Whereas Aristotle distinguishes between a discipline that treats only a part of being and one that treats being universally, Dewey makes a distinction between specific and generic traits of existence. Although the terminology is different, both agree on fundamental issues. For each, (a) metaphysics is defined according to its unique subject matter; (b) that subject matter is described in the most general of terms as either "being as being" or the "generic traits of existence"; and (c) metaphysical knowledge is thought to be as much a possibility as knowledge in other disciplines.

That a parallel of this sort should exist between Dewey and Aristotle is not so surprising as it may at first seem. There was, after all, the influence of the German Aristotelian Trendelenburg in Dewey's training at Johns Hopkins. But perhaps the most prominent factor in bringing out his incipient Aristotelian leanings was his colleague at Columbia University F. J. E. Woodbridge, a devoted disciple of Aristotle. We have not only textual evidence to this effect but also the testimony of both Herbert Schneider and John Herman Randall. Dewey's definition of metaphysics is a virtual mirror image of Woodbridge's in his article "Metaphysics"; Schneider claims that it was Woodbridge who "encouraged Dewey to think naturalistically, to take metaphysics empirically, and to write Experience and Nature"; and Randall, addressing himself directly to the issue of continuity with the classical tradition, says: "Indeed, Dewey's own appreciation for the superiority of the Greeks to modern dualisms, so marked in his writings from Experience and Nature onward, seems to have been greatly extended and developed through his discussions with Woodbridge."5

Dewey himself came to realize that there was an affinity between his philosophy and that of the Greeks.9 In the introductory piece he wrote for Sidney Hook's The Metaphysics of Pragmatism, he admits that the pairing of the words "metaphysics"7 and "pragmatism" in the book's title might not appear at first sight to be an enlightened choice, and then goes on to explain how the two terms do indeed belong together.
But the reader who permits his idea of the meaning of these words
to grow with and from the actual subject-matter of the following
pages will find in them, I am confident, a penetrating and illumina­
ting union of the basic ideas in the newer movement with those
of the classic philosophical tradition, a union in which equal jus­
tice is dealt to the truths which are carried over and completed in
the new development and the transformations in them which the
new ideas enact. 8

This passage sets the boundaries of the next two chapters. On the
one hand, the problems they will deal with are similar to those
treated in the classic philosophical tradition. On the other, the ac­
tual subject matter discussed will undergo the “transformations”
Dewey refers to in the last sentence.

2. EVOLUTION AND ONTOLOGY

In spite of texts such as these, questions could still be raised con­
cerning the impact of evolution. Was it not this biological doctrine
which drew Dewey and other thinkers away from ontology, tainted
as the latter was with the aura of permanence and changelessness? Is
a philosophy influenced by Darwin not bound to be critical rather
than constructive in this area? One commentator personally familiar
with Dewey does not think so. Sterling Lamprecht argues, in fact,
that what the Darwinian theory pointed to was a felt need to con­
struct a new metaphysics: “Darwin stressed the interaction of organ­
ism with environment, . . . Darwin also stressed the fact that the
world is in constant flux, and that novelty appears on the occasion
of many a natural change. Darwinism is not a system of metaphysics.
But the truths which Darwin forced scientists, and then also philos­
ophers, to acknowledge prepared the way for a metaphysics of a dif­
f erent caliber than that which ensued from the Newtonian forma­
tions.” 9 Lamprecht is arguing here that serious thinkers could not
avoid metaphysics as a theory of existents in general, and that crit­
icism of traditional ontologies alone was an insufficient response.
The novel manner of interpreting reality suggested by evolutionary
theory occasioned constructive philosophical thinking about the
very nature of entities.

Lamprecht’s quotation not only indicates the need for a renewed
metaphysical effort; it also outlines the main themes of this chapter.
As he presents it, evolution brought with it two great lessons for philosophy: the emphasis on the interaction of an organism with its environment and the recognition that flux, novelty, and change are real factors in the natural world.

Dewey understood these lessons well. As we shall see, for him, formed entities are the result of the interaction of organism and environment. One consequence of viewing forms this way is that the conflict with the obvious fact of change, objected to in the previous chapter, no longer is a problem. Nor is the compatibility of flux and form. The issue becomes that of articulating the manner in which both are incorporated into a single doctrine.

To elicit Dewey's contribution to this issue, I shall begin by treating the question of organism/environment interaction itself. The manner in which he allies this issue to that of matter and form will be developed in some detail. The second section will examine the dynamic interpretation of form. Following this, two sections will be given over to the examination of what might be called categorial considerations. Although he does not present an explicit doctrine of categories, Dewey does provide an incipient categorial scheme. The two prominent categories are "event," his transposition of the Aristotelian ousia or substance, and "relation," which plays a major and crucial role in his thought. Section 3 will deal with "event"; section 4, with "relation." Once this preliminary work is completed, the status of forms in Dewey's thought as objectively relative will be discussed. "Objective relativism" is an expression that A. E. Murphy coined, and a singularly successful one in encapsulating the Deweyan position.

2.1. Interaction and the Separation of Matter and Form

In *Art as Experience*, as he reaches back into history to discuss the problem of matter and form, Dewey uses the very terminology that is of interest to us. The passages in question offer some instances of his growing willingness to speak of form in a positive rather than a pejorative manner, and thus present an appropriate point of departure for investigating his reconstructed view of forms.

The inherent limitation of the context in which the discussion occurs is that it is concerned with artistic experience, or *techne*. But, as we shall see immediately, the manner in which Dewey's analysis
is presented could apply to *physis* as well; we shall see later that Dewey himself considers a generalized application of this sort defensible. The sections of central concern to my investigation deal with the separation of matter and form. According to Dewey, this separation is a serious error, whose roots can be traced to an improper understanding of the relationship of a creature and its environment. This is true both for those who emphasize form at the expense of matter and for those who stress matter at the expense of form.

The sum of the whole discussion is that theories which separate matter and form, theories that strive to find a special locus in experience for each, are, in spite of their oppositions to one another, cases of the same fundamental fallacy. They rest upon separation of the live creature from the environment in which it lives. One school, one which becomes the "idealistic" school in philosophy when its implications are formulated, makes the separation in the interest of meanings or relations. The other school, the sensational-empiricist, makes the separation in behalf of the primacy of sense qualities [AE 136].

In an earlier chapter, we reviewed at length Dewey's analysis and criticism of these two schools. What concerns us now is the elaboration of the doctrine of interaction which Dewey claims these other thinkers ignored.

### 2.2. Three Characterizations of Forms

In characterizing forms in Dewey's thought, there are three interconnected, somewhat overlapping points to be made, each of which simply emphasizes a different dimension of the analysis he has formulated. The first is that the failure to accept the primordial nature of the organism/environment interaction is the major cause of the mistaken isolation of form from matter. Dewey, in contrast to this view, holds that forms do not exist separately. They cannot have existence apart from the interaction of organism and environment. Secondly, forms are viewed as *results*, not as pre-existing givens. Finally, another way of stating this is to say that forms and materials are correlative.

A. If Dewey believes that the separation of form and matter is erroneous, and rests on a single fallacy, then we can expect a state-
ment that if the fallacy is recognized and overcome, the source of the union of form and matter will be made manifest. Dewey does not disappoint us. He explicitly connects the inseparability of form and matter with the organism/environment interaction:

Since the ultimate cause of the union of form and matter in experience is the intimate relation of undergoing and doing in interaction of a live creature with the world of nature and man, the theories, which separate matter and form, have their ultimate source in neglect of this relation. . . . There are enemies of the union of form and matter. But they proceed from our own limitations; they are not intrinsic [Æ 137–38].

With this quotation, we begin the reconstruction of the positive elements in Dewey’s doctrine. The focus out of which it grows is the interaction emphasized in evolutionary thought. This interaction is the “cause” of the “union” of form and matter. But what exactly does Dewey mean by this union? We get a significant clue elsewhere in *Art as Experience* when he argues that the connection of form and matter does not mean that they are “identical.” “It signifies that in the work of art they do not offer themselves as two distinct things: the work is formed matter” (Æ 118–19). As is customary with him, Dewey is trying to avoid extremes here. If the isolation of form from matter is a mistake, the alternative is not their identification. Recalling the context out of which an analysis develops has significant implications in this instance. We have already seen how he criticized previous philosophers for isolating the results of analyses from the contexts which occasioned them.15

Dewey realizes that to speak intelligently about a work of art one has to deal with both the material out of which it is constructed and the way in which that material is arranged. Matter and form are distinguishable facets of an artwork. They are not identical because dealing with one alone would provide an insufficient, incomplete analysis. Yet if the context out of which discussion about art grows, the actual concrete works themselves, is always kept in mind, the temptation to treat the two aspects, separated in consciousness, as actually separate things will be minimized. Form and matter can be distinguished, but they are not distinct, separately existing things. This description is, of course, simply a beginning, and one restricted to works of art. Yet in its essentials it can be transferred to
the realm of *physis* as well. That is to say, the position can be viewed as one of truly ontological generality, applying to all beings. It is possible to recognize all entities as formed entities in the sense just indicated by Dewey. This extension is supported by the fundamental assumption he is working with, the interaction of organism and environment. This is a model which came originally from nature, and which Dewey extended to the aesthetic realm. But the influence of the environment as Dewey describes it above is more readily understandable if it is viewed in terms of natural beings.

This is especially so if we consider the embryological model which I am offering as complementary to Dewey's emphasis on *techne*. In this case, the manner in which an entity organizes itself by using the materials of its surroundings gives rise to an organized, formed entity. An existent cannot develop in isolation from its environment. What a particular organism becomes is a product of a variety of factors including its own energies and the possibilities and limitations of its surroundings. It does not, it cannot, become what it is in isolation from what goes on around it. The occasion for novelty resides precisely in this fact. Because of this, Dewey's stress on the union of form and matter within the context of organism/environment interaction is as well illustrated in *physis* as in Dewey's own selection from *techne*.

b. The second point, that forms must be seen as results, is fully consistent with an analysis that regards the interaction of organism and environment as a fundamental ontological fact. Individual forms are not given as pre-existent data which antedate the actual growth and development of a particular entity. Form is the product of the kind of interaction Dewey wishes to make a central concern of philosophy. "Interaction of environment with organism is the source, direct or indirect, of all experience and from the environment come those checks, resistances, furtherances, equilibria, which, when they meet with the energies of the organism in appropriate ways, constitute form" (AE 152). Let us underscore some of the more significant terminology in this passage. There is, in the first place, the emphasis on environment/organism interaction, which is said to be the source of all experience. Form is then described as flowing from this source; it is said to be *constituted* or *arrived at*. Dewey does not admit any essence hidden behind or within the accidental qualities of an entity. That is the static view of reality.
On this view, a being "really" is of a certain kind despite the vicissitudes and alterations it may suffer. Dewey is arguing, on the other hand, that what something "really is" is a function of the changes, alterations, and reactions to surroundings that it undergoes. It is what it is because of them, not in spite of them.

With form now the result of environment/organism interaction, the untenability of the separation of form and matter becomes clearer. Forms cannot be treated in isolation from the material constituents of beings. The material becomes formed in a certain way as the result of a variety of circumstances. Form is not independent of the being’s activities. It is also not independent of human intervention, which may elicit a variety of forms from certain materials. This was the procedure undertaken by the professional breeders with whom Darwin was so impressed.

c. If forms are to be treated neither as identical to nor as isolated from the materials they qualify, then form and material should be treated as a correlative pairing. In other words, there is no theory of "forms," strictly speaking, in Dewey. They do not exist, do not make sense, apart from entities. This kind of analysis results from Dewey's elimination of other possibilities. We have already seen that he rejects the hypostatization and isolation of form and matter. We have also seen that he does not consider them to be identical. This leaves only the middle path of treating them in a bipolar fashion.

Dewey’s explicit recognition of this fact comes in a different context, that of physis. While discussing “structure” in Experience and Nature, Dewey provides an analysis which is helpful to us here. His aim is a familiar one: the rejection of analyses in which a structure is dealt with in isolation from the being whose structure it is.

Structure is constancy of means, of things used for consequences, not of things taken by themselves or absolutely. Structure is what makes construction possible and cannot be discovered or defined except in some realized construction, construction being, of course, an evident order of changes. The isolation of structure from the changes whose stable ordering it is, renders it mysterious—something that is metaphysical in the popular sense of the word, a kind of ghostly queerness [EN 64–65].

What Dewey says here about structure can also be said of form. Form is always to be interpreted as “form of,” as an integral factor to be recognized in an ever-fluctuating individual. Only when this
analysis is overlooked do structures and forms become “metaphysical” in the negative, pejorative sense of the word. On this kind of analysis, if form were to be described grammatically, it would be a verb rather than a noun. Entities are formed, but form itself does not exist as a separate being. Form, therefore, is viewed as having a relational or complementary kind of existence. That is to say, there must always be an existent whose formation is actually going on. The error of previous philosophers had been to isolate the material constituents of a being from its form. This is but an instance of the fallacy of selective emphasis, discussed in the previous chapter.17

2.3. The Dynamic Interpretation of Beings

If form is unreservedly identified with a static view of existence, then it is futile to attempt any reconstruction of a doctrine of forms in Dewey. But form is not necessarily wedded to a static view, and the doctrine of interaction provides the context in which a dynamic interpretation of form can be developed.

Dewey’s position, in more traditional metaphysical terminology, is that beings are beings-in-interaction. This is a fundamental, primordial datum of existence. In other words, whatever is is somehow in interaction with other beings. This interaction, Dewey has argued specifically in a passage quoted earlier, “constitutes” form.18 Since form is always form-of something, and since that something is part of an organism/environment interaction, form will be dependent on the continued interactivity exhibited therein. Formation, in this context, is an ongoing process. The entity continuously sustains itself by means of the environment. If the organism proper were the sole source of form, if being were not being-in-interaction, then the static view would be comprehensible, and accepting form as a static, inherent, unchangeable factor of organization would be possible. By developing an ontology of being-in-interaction, Dewey is able with great consistency to suggest a view in which due attention is paid to both process and form.

Dewey also approaches this issue from the perspective of “order,” a term he uses to express the formative activity of beings. Order, he argues, needs to be continually constructed and is constantly being built up in the external world, in a process he calls “admirable in a world constantly threatened with disorder.” Natural beings, he goes
on to say, "can go on living only by taking advantage of whatever order exists about them, incorporating it into themselves" (AE 20). Dewey may be using different terminology here, but the thrust of his remarks remains the same. The aspects of change (disorder) and permanence (order) are blended together in such a way that both must be considered fundamental. There is order, but its source is not to be found outside the processes of existence. It results from the synthesizing capacities of each being.

Process, change, activity, and flux are very real in the universe that surrounds us. But Dewey is careful to qualify this recognition as only a partial view of the way things are. As fundamental as those dynamic elements may be, the presence of stabilizing factors (forms) must not be overlooked:

There is in nature, even below the level of life, something more than mere flux and change. Form is arrived at whenever a stable, even though moving, equilibrium is reached. Changes interlock and sustain one another. Wherever there is this coherence there is endurance. Order is not imposed from without but is made out of the relations of harmonious interactions that energies bear to one another [AE 20].

There is no way of telling how much time Dewey spent drafting these sentences, but they are a masterly example of balance in illustrating the point I am making. Each of them incorporates and successfully illustrates the tensional, resonating aspect of form as Dewey conceives it. When he employs a term connoting stability, "equilibrium," he qualifies it with a dynamic adjective, "moving." When, on the other hand, he makes use of a term with connotations of fluidity, "change," he qualifies it with the stabilizing verb "interlock." "Coherence" and "endurance" imply continuity through change. In the last sentence, "order," implying stability, is coupled with "energies," a term connoting change and process.

In Experience and Nature Dewey fastens on the term "stable" to express the structured, ordered dimensions of existence. Chapter 2 of that text is entitled "Nature as Precarious and as Stable," and its intent is to emphasize the importance of recognizing both dimensions as "fundamentally significant for the formation of a naturalistic metaphysics" (EN 47). In choosing "stable" as his technical term, Dewey is emphasizing endurance in tension with change, and
expressing his position that regularity and equilibrium are facts of existence, but that they are not rigid, fixed, and eternal. For Dewey, everything that exists is temporally conditioned.

One indication of this is his qualification of the term “stable” with the adverb “relatively.” The idealist’s doctrine of Absolute Experience may be erroneous, he asserts, but it is a symbol of two facts, one of which is pertinent to the point I am trying to make. “One is the ineradicable union in nature of the relatively stable and the relatively contingent” (EN 56). If, for some readers, “stable” implies that which is absolutely unchangeable, rigidly unalterable, even through the course of history, then Dewey’s position would be misunderstood. To lessen the chance of this, Dewey explicitly qualifies “stable” in the above manner.

In another instance, he provides an analysis that can leave no doubt as to his intentions.

The stablest thing we can speak of is not free from conditions set to it by other things. That even the solid earth mountains, the emblems of constancy, appear and disappear like the clouds is an old theme of moralists and poets... A thing may endure secula seculorum and yet not be everlasting; it will crumble before the gnawing tooth of time, as it exceeds a certain measure. Every existence is an event [EN 63].

Time and change are factors that must be considered as integrally implicated in all existences. This does not mean that stabilities of all kinds are to be denied. But it does mean that they must be reinterpreted accordingly. Other terms besides “stable” might have served Dewey just as well. I can think of “enduring” and “persisting,” both of which indicate a temporally qualified permanence. Whatever term is preferred, the important fact to keep in mind is that, for Dewey, the “stable” is always conditioned by temporality. Because of this he refers to entities as “events.” Just exactly what he means by this term, and how it relates to the question of forms, is the next topic to be considered.

3. CATEGORIAL ANALYSIS

Events are, as Santayana called them, Dewey’s “metaphysical elements.” Dewey has not provided us with a text that explicitly sets forth his categories. Nonetheless, every serious ontological thinker
possesses a categorial schema, and Dewey is no exception. The vocabulary in which philosophers choose to carry on their discourse reveals to a great degree their ontological assumptions. And the most general term used to describe beings, or existences, is of the highest significance in this respect.

Aristotle appears to have been the first philosopher to list explicitly his categories. An Aristotelian category, as Sterling Lamprecht has expressed it, "is a basic concept which the world around us forces us to use in our analysis of it." This means that a strong ontological dimension suffuses the doctrine of categories. If we wish to deal accurately, truthfully, with the world of our experience, then we must employ concepts consistent with the kind of world it is, not ones arbitrarily chosen. The most basic of these concepts are the categories. Lamprecht expands his explanation:

Among the terms of discourse we use about the world, some are more basic than others. The term man, for example, is not a category; for we do not need to use such a term in analyzing the stars. Nor is the term star a category; for we do not need to use it in analyzing man. But some terms are requisite to any and every analysis of any and every existing subject-matter. Men and stars are both substances, that is, concrete, individual things. And substance is a category; for every investigation we make of the world about us proves to be an investigation, if not about a man or a star, about some such concrete individual thing or things.

Dewey, like Aristotle, elects a fundamental category, one that is requisite for "any and every analysis of any and every existing subject-matter." Unlike Aristotle, however, Dewey does not believe it to be "substance." He chooses, rather, "event." As we saw earlier, Dewey argues that "every existence is an event," and this means that, whereas star and man are both substances for Aristotle, they are both events for Dewey.

3.1. Events

Three questions immediately present themselves. Why does Dewey select this particular term? What does it mean? What relationship does this fundamental category bear to the doctrine of formed entities?

The discussion of Dewey's dynamic interpretation of forms in the
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previous section provides the kind of context in which his use of "event" can be understood. We saw there that Dewey is eager to portray nature as an inextricably blended array of the stable and the precarious. To emphasize his recognition that both aspects must be taken into account Dewey chooses to describe existences as events. The crucial factor conditioning all existences, making them both stable and precarious, is time. By using "event" Dewey wishes to indicate that, in more traditional terminology, beings are beings-in-time. The temporal dimension does not merely provide a neutral medium in which events occur. It enters into their very constitution.

Since existence is historic it can be known or understood only as each portion is distinguished and related. For knowledge "cause" and "effect" alike have a partial and truncated being. It is as much a part of the real being of atoms that they give rise in time, under increasing complication of relationships, to qualities of blue and sweet, pain and beauty, as that they have at a cross-section of time extension, mass, or weight.

The problem is neither psychological nor epistemological. It is metaphysical or existential. It is whether existence consists of events, or is possessed of temporal quality, characterized by beginning, process and ending [EN 91–92].

What Dewey is arguing here is the insufficiency of a strictly synchronic analysis for fully understanding the complex characteristics of existents. New properties, traits, or efficacies may eventuate as results of processes of development or through acquisition of new relationships, and Dewey wants to emphasize that they are every bit as real as the antecedent conditions that made them possible. Because existents are events—that is, because they are "characterized by beginning, process and ending"—to understand them properly both synchronic and diachronic approaches are necessary.

For Dewey, events are the real existents of the world. If forms are to be discussed, they will have to be spoken of in the context of the metaphysical elements, the events, not as metaphysical elements themselves. This would then reduce the temptation to describe forms in terms implying the rigidly static or fixed.

If we take each of the three traits of forms mentioned earlier, we can indicate how the category of events both reinforces Dewey's
analysis and lessens the possibility of the view he rejects. The first and third points are simply the negative and positive ways of saying the same thing: forms must not be treated in isolation; they must be viewed as correlative to materials. Just as Dewey had argued with respect to works of art that form and matter were not distinct things, but rather that the work was formed matter, so we may now say that, on a more generalized level, events are formed matter. An event, whether it be a bridge, a battle, or a flower, involves both material constituents and an organization of those constituents. Events are the fundamental existents. Forms have meaning only in reference to them. They do not possess any ontological status in isolation from the event.

The category of event also dovetails nicely with Dewey's conviction that forms result from, or are constituted by, the organism/environment interaction. We saw that "event" is meant to emphasize the diachronic dimension in existence. Events are eventuations, things which come about through the process of interactions in time. Events that are living, or conscious, for example, have not existed ab initio. New species and variations of species have been produced in nature. These novel productions are, in a very real sense, formed. The forms are elicited from the events; they are not given prior to them. Since events are conditioned by evolutionary developments, so are forms. By stressing the ontological priority of events, we can grasp more clearly what Dewey's understanding of forms entails. An event is a concrete existent conditioned by temporal processes, and developed in the context of environment/organism interactions. Event thus epitomizes two essential Deweyan assumptions. It is the events which, in the Deweyan scheme, can be spoken of as formed. Forms do not, in the strictest sense, exist. Events do, but they are formed.

As I have interpreted it, event is Dewey's version, duly revised in terms of scientific progress, of Aristotle's category of substance. He also fastens on another of Aristotle's categories, one whose prominence can be traced back to Dewey's Hegelian phase: the category of relations. During his idealistic period, Dewey had emphasized the importance of relations as a weapon in his opposition to the empiricist tradition. The prominence of relations remains evident throughout his naturalistic writings.
3.2. Relations

There are two areas in which the topic of relations has a special bearing on forms. One, obviously, is the organism/environment relationship; the other, the particular relationship of parts in a single entity. When the topic of form was introduced, I pointed out that such a philosophical position usually depends on an empirical fact: namely, that entities are complex.28 In one crucial sense, form requires this sort of complexity. It implies the organization of the multiplicity in some uniquely ordered manner. One of Dewey’s definitions of form in Art as Experience indicates explicitly the importance of relations in understanding forms. “No material can be adapted to an end, be it that of use as spoon or carpet, until raw material has undergone a change that shapes the parts and that arranges these parts with reference to one another with a view to the purpose of the whole. Hence the object has form in a definitive sense” (AE 121). Taking an artwork as a particular kind of event, Dewey is saying that it is formed in a certain way because its constituent parts are related in a definite manner. This relationship, Dewey asserts, is a directional one. The parts are related in view of an end or purpose.

The quotation just cited is narrowly situated in the realm of techne. This prompts the question whether the analysis of forms in terms of end and relations can be extended to physis as well. Certainly, the term “purpose,” implying an outside planning agent, is not at all congenial to Dewey’s understanding of nature. But relation is a topic that can more readily be spoken of in a generalized sense, one applicable to both techne and physis. We have just seen how one explanation of form is based on the recognition of relations. The first point to be noted in this respect is that even though the discussion applies to art, Dewey’s analysis is fully consistent with his dynamic view of forms. In describing relations, he is careful to distinguish between a static, non-relational positing of parts or individuals and a dynamic, energetic relationship.

There is an old formula for beauty in nature and art: Unity in variety. Everything depends on how the preposition “in” is understood. There may be many articles in a box, many figures in a single painting, many coins in one pocket, and many documents in a safe. The unity is extraneous and the many are unrelated. The
significant point is that unity and manyness are always of this sort or approximate it when the unity of the object or scene is morphological and static. The formula has meaning only when its terms are understood to concern a relation of energies [AE 166].

There are several topics of interest in this passage. The general context for the discussion is, first of all, the subject of art. Nonetheless, Dewey makes clear from the outset that his analysis is of a formula that applies to both nature and art. This is significant if we are in search of an ontological position, one that applies to beings as such, and not to a restricted kind of existent. Secondly, we get a definitive statement that relations have significance only where there is activity. Real relations occur, Dewey is suggesting, not when there is a merely static or geometrical coordination, but when there is a coordination or cooperation of energies.

A pattern in Dewey's thinking is beginning to emerge at this point. The negative impact the doctrine of evolution had on the static world-view has already been discussed, and the association of the doctrine of form with this static view has been touched on. Earlier in this chapter we studied some of the indications that Dewey has provided concerning a revised doctrine of forms. The fact that this view has to stress flux and change was emphasized at that time. What may not have been stressed, but is equally important, is that the path from a dynamic interpretation of reality to a doctrine of formed entities is not all that difficult to travel. The movements and interactions of elements and energies, their fusion into some kind of order, are the continuous creation of formed events. In discussing the question of substance and form, Dewey speaks of “the inherent tendency of sense to expand, to come into intimate relations with other things than itself, and thus to take on form because of its own movement—instead of passively waiting to have form imposed on it” (AE 129).

Nowhere is this emphasis on the connection between form and process more distinctly stated than in his description of relations. In dealing with these, as we have seen, he is explicit about the inherent necessity of energies, of activities.

Form was defined in terms of relations and esthetic form in terms of completeness of relations within a chosen medium. But “relation” is an ambiguous word. In philosophic discourse it is used to
designate a connection instituted in thought. It then signifies something indirect, something purely intellectual, even logical. But “relation” in its idiomatic usage denotes something direct and active, something dynamic and energetic. It fixes attention upon the way things bear upon one another, their clashes and untings, the way they fulfill and frustrate, promote and retard, excite and inhibit one another.

Intellectual relations subsist in propositions; they state the connection of terms with one another. In art, as in nature and in life, relations are modes of interaction [AE 139].

In the earlier passage dealing with relations, Dewey had contrasted his active interpretation with the static view. Here he contrasts the dynamic position with another foe, a mentalistic interpretation of relations. Dewey is explicitly extending his understanding of relations beyond what had been prevalent since the time of the empiricists. Relations, he is claiming, are not merely mental. They are real because entities do actually “bear upon one another.” They exist wherever there is actual interaction; and this interaction, Dewey is careful to insist, exists in nature and life as well as in art. This last point is one of the reasons why the discussion of relations has been focused on. For in this passage as in the earlier one, Dewey quite clearly admits that his analysis can be extended beyond the realm of art. If this is so, if, as Dewey says, relations are analogous in art, life, and nature, then his position has ontological significance.

3.3. Categories Apply to Both Techne and Physis

In the three books which now concern us, Dewey appears to have been attempting to do what has always been the aim of metaphysicians. He was developing a terminology (experience, organism/environment interaction, events, energies, relations) generalized enough to be applicable to the different kinds of beings. Such a procedure is controversial, of course. Critics who have little understanding of metaphysics, and thus no sympathy for the discipline, are quick to reject this kind of undertaking. Richard Rorty, for instance, judges Dewey’s endeavor to be a futile one. “Again, only someone who thought that a proper account of the ‘generic traits’ of existence could cross the line between physiology and sociology—between causal processes and the self-conscious beliefs they make
possible—would have written the chapter in *Experience and Nature* called ‘Nature, Life, and Body-Mind,’ or have attempted to develop a jargon that would apply equally to plants, nervous systems, and physicists.” Rorty goes on to say that this “return to Lockean modes of thought” ignores an established philosophical insight: “that nothing is to be gained from running together the vocabularies in which we describe the causal antecedents of knowledge with those in which we offer justifications of our claims to knowledge.”

Dewey would surely stand justifiably accused if he were seeking in physiology or even in psychology justifications for knowledge claims. But is this what Dewey is attempting? Is the enterprise of metaphysics, as the cognizance of the generic traits of existence, meant to provide the sort of justification for knowledge claims Rorty refers to? The answer is an unequivocal “no.” Rorty’s complaint is based on a misreading of what Dewey is trying to do. Dewey is not trying to develop a formula that would allow a clear-cut manner for justifying knowledge claims. He is certainly not engaging in a “Lockean” type of genetic explanation. Ever since his studies with George Morris, Dewey had incessantly criticized those thinkers who attempted the very sort of justification Rorty accuses him of seeking. Dewey ridiculed those thinkers who thought it important to ask and answer the question “Is knowledge possible?” Dewey’s own interests in this area were confined to a descriptive analysis of *How We Think* (the title he gave to one of his books). Dewey wrote extensively on education because he was concerned that experimental methods of inquiry be acquired on a widespread basis. The existence and effectiveness of knowledge is a fact for Dewey. He does not share the Kantian assumptions which, by making the very existence of knowledge claims problematic, require the elaboration of justifications. He simply seeks to describe and secure the most appropriate method for gaining knowledge. He calls this method, as we have already seen, an “experimental logic.”

The “jargon” Rorty criticizes has little to do with traditional epistemological issues that dominated philosophical discussions in the modern (post-Cartesian) era. Indeed, Dewey’s significance as a living philosophical presence lies precisely in the manner in which his metaphysics undermines, and thus overcomes, the assumptions of modernity. Dewey’s formulation of a novel terminology is part of this attempt to revise the metaphysical description of nature in
light of scientific discoveries, especially evolution. When he claims, for example, that “existence consists of events,” he is arguing that temporality is an important factor for the “plants, nervous systems, and physicists” Rorty mentioned. He needs to emphasize this point because it accurately describes natural existence and had been widely overlooked in earlier philosophies.

Dewey does develop a terminology (not a “jargon”) which is applicable both to techne and to physis. Such a procedure is indeed “metaphysical,” but not in the sense of striving to identify what is beyond the physical. Like Heidegger, Dewey realized that only by a radical reworking of the tradition could philosophy break away from the now sterile generative ideas of modernity. Such a radical reworking involves addressing questions about the nature of existence which have always been the province of metaphysics.

Art as Experience can be considered a crucial text for understanding Dewey’s metaphysics precisely because in it he developed analyses of this general sort, which can be transposed and applied to natural beings with little or no modification. Yet there are statements conflicting with this view which must be considered if an accurate interpretation of Dewey is to be presented. Essentially, these statements have Dewey asserting that the Greeks, as well as the objective idealists, transferred the traits of aesthetic experience to cognitive experience, in a mistaken procedure that limited not only the success but the very possibility of the experimental method. If the beings of nature are seen as fixed, final, and consummatory, then cognition is limited to contemplation, and experimentation is viewed as a violation of the fixed structures of existence.

In “Experience, Knowledge and Value: A Rejoinder,” Dewey with great clarity exposes the error in question: “With respect to these issues, I call attention to the fact that in earlier writings I pointed out that the very type of philosophy Mr. Pepper attributes to me arose historically precisely from the fact that Greek thinkers took categories which are applicable to works of art and to their enjoyed perception and then extended them to the whole universe where they are not applicable.” 28 Experience and Nature makes the same point in a more succinct manner. “In the classic philosophy of Greece the picture of the world that was constructed on an artistic model proffered itself as being the result of intellectual study” (EN 76). What implications for the present study are to be drawn from
statements like these? Is Dewey arguing in one instance something he denies in another? I do not think so. If we understand properly what Dewey is saying here, we can accept it as valid, without, at the same time, sacrificing a belief that certain characteristics apply to all beings, whether natural or artistic.

To grasp the real force of the objection exemplified in the two passages just quoted, we have to recall a topic discussed in the third chapter, the ubiquity of the knowledge relation. Dewey has called this one of the major errors in philosophy. It involves taking the results of one kind of experience and believing that this gives us true knowledge of the real. As far as he is concerned, the scientifically based view of mechanistic materialism is an example of an erroneous position based on just this fallacy. The results of classical physics are thought to provide a privileged knowledge of the world as it really is. The results of refined noetic experience are interpreted as exhausting the characteristics of the natural world.

Dewey states that whereas our interests are dominated by scientific and economic concerns, the Greeks were "as much dominated by the esthetic characters of experienced objects" (EN 75). Because of this, the Greek version of the extension of mechanics to the whole of reality was the extension of aesthetic characters—wholeness, finality, completeness, stability—to the natural realm. Just as Dewey identified the ubiquity of the knowledge relation as a basic error of modern philosophy, he could have suggested that a ubiquity of the aesthetic relation was a special error in Greek thought. What he objects to in this instance is the wholesale transference of characters recognized as valid in art to the entire realm of beings. The result, as he perceives it, is the fixed world, unsuitable to experimentation, against which he so vehemently argues. The stability of natural beings is not identical to the stability of a statue. It would obviously be a mistake to confuse the two realms. But it is still possible to see, as Dewey does, that stability has a place in both.

Just as nature, though not wholly a machine, possesses a mechanical dimension, so nature is not a product of art, but has an aesthetic dimension. Dewey sets this position down in the early pages of Experience and Nature. "If experience actually presents esthetic and moral traits, then these traits may also be supposed to reach down into nature, and to testify to something that belongs to nature as truly as does the mechanical structure attributed to it in physical
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science” (EN 19). In light of such a direct assertion, the statements that could be used to contradict my interpretation must be read carefully in terms of their contexts, especially the position Dewey is arguing against. It is true that he objects to the Greek extension of aesthetic traits to the natural realm. But it is the identification of the natural and the aesthetic which Dewey judges to be improper. There is nothing in his criticism of the Greek view to suggest that certain generic traits cannot apply to both natural and artistic entities.

All this is significant because I have thus far based my reading of Dewey to a great degree on his book Art as Experience. Because the remarks made there about forms can be generalized into a defensible ontological position, I have attempted to blend the discussion found in that text with an analysis of two ontological categories central to Dewey’s presentation of his philosophical outlook: event and relation.

4. OBJECTIVE RELATIVISM AND FORMS

The previous discussion has given indications justifying the extension of some aspects of aesthetic experience to nature. In other words, there are continuities between the two realms, and Dewey freely admits them. I have concentrated in particular on his descriptions of forms in techne, and have argued that these descriptions can be extended to physis. The objection might legitimately be raised that, although Dewey admits continuities between techne and physis, there is no solid documentation that forms are among them. The present section will provide the textual justification for such an extension.

I shall undertake this discussion in the context of “objective relativism,” an expression Arthur E. Murphy suggested to illustrate the originality of Dewey’s approach. Murphy wanted to point out that in Dewey’s novel orientation the old opposition of subjectivity and objectivity no longer successfully describes the actual situation of the natural world. The view that held to this opposition was another of the traditional philosophical commonplaces Dewey described as being dissolved as a result of scientific advances, especially Darwinism.

Since Dewey describes forms in terms of the arrangement of parts
or means in light of an end or purpose, there would appear to be some justification for arguing that his discussion of forms applies only to \textit{techne} and not to \textit{physis}: namely, that the introduction of the term "purpose" might seem to indicate that he considers forms subject-dependent. Since this factor, the artist fabricating according to a preconceived aim, is absent from nature, could it not be said that forms too are absent from nature? Murphy's doctrine of "objective relativism" is particularly helpful in seeing why this analysis is mistaken and how Dewey explicitly admits form in both nature and art. For if the very framework of subjective \textit{vs.} objective no longer holds, then it is doubtful that Dewey will assert the subjectivity of forms even in \textit{techne}.

Let us begin by understanding just what Murphy means by "objective relativism." The expression was chosen precisely because it combines two terms traditionally thought to be incompatible. According to previous philosophical analyses, either beings and their properties existed objectively or their existence was relative to the observing subject. Thus, in one tradition, primary qualities were interpreted as being objective, but secondary ones were relative. An unbridgeable gap separated the two. The originality of Dewey's position, according to Murphy, is that it cannot be restricted to the traditional framework.

Its [the expression "objective relativism"] constituent terms have unpleasant and seemingly misleading associations, but their union in a single doctrine does seem to indicate fairly well what is most original and most controversial in the theories to be considered. It attempts to unite two propositions which have uniformly been taken to be incompatible. (a) The objective facts of the world of nature and of reality are the very "apparent" and relative happenings directly disclosed to us in perception. (b) In spite (or because) of such objectivity such happenings remain ultimately and inescapably relative.

Murphy is offering here an analysis analogous to the one I undertook in my discussion of "events." Events, I argued, do not exist apart from a context or outside of the temporal sequence. Their emergence and character are relative to both their environment and the manner in which they alter through time.

What Murphy wishes to stress is that objectivity does not imply a substance of the Lockean kind, changeless and timeless. Events are
both relative and objective. The only way to understand this position accurately is to recall the primacy of the organism/environment interaction for Dewey. All events are thus relational. This is what Murphy wants to emphasize by the term “relative.” “The fact of relativity is here no other than the fact of relatedness.” An event is never a separate, autonomous existent. It is not objective in this sense. It is always context-dependent. “As an event, the situation is caught up in a whole network of interactions and circumstances, without which it would not be what it is.”

A similar analysis holds with regard to temporal relationships. Murphy argues that, for Dewey, time makes a difference. “If time is to be real, it must make a difference to existences themselves.” Events are thus seen to be fully context-dependent and so, in Murphy’s term, “relative.” But they are not subject- or mind-dependent. They are then, in traditional terminology, “objective.” Within the older framework either objects were “objective” or they were relative to a knower or perceiver. In the new analysis, events are both objective and relative. They are relative to their environment, an environment that may or may not include a percipient.

In the new Deweyan framework, the terms “subject” and “object,” legacies from epistemology-centered philosophy, have to be abandoned or radically redefined. In Dewey’s metaphysics of existence, there are no “subjects” defined as exclusively rational beings that confront “objects” with the aim of reflecting them accurately. When Dewey entitled his Carus lectures “Experience and Nature,” he was seeking a terminology which would allow him to break away from a universe of discourse dominated by “subject” and “object.” He was trying, as Murphy indeed recognized, to develop a metaphysics of objective relativism.

4.1. Forms as Objectively Relative in Techne and Physis

If Murphy’s analysis is accurate, then we should find passages in Dewey in which form is described as objectively relative. This should be true even in the field of techne where the subjective/objective dichotomy would no longer apply. Thus, the possible objection that the description of forms in art is subjective, and so not applicable to nature, would be circumvented. Art as Experience
provides a statement framed in traditional terminology that quite decisively shows that for Dewey forms are not subjective.

Many tangled problems, multifarious ambiguities, and historic controversies are involved in the question of the subjective and objective in art. Yet if the position that has been taken regarding form and substance is correct, there is at least one important sense in which form must be as objective as the material which it qualifies. If form emerges when raw materials are selectively arranged with reference to rendering an experience unified in movement to its intrinsic fulfillment, then surely objective conditions are controlling forces in the production of a work of art [AE 151].

This position is consistent with Dewey’s attitude of recognizing the importance of the environment/organism interaction. No artist creates in the theological sense of ex nihilo. All artworks are conditioned by the plasticity, resiliency, and recalcitrance of the raw materials with which the artist begins. The resultant product is forged from these materials, and its form is thus dependent to some extent on the elements of construction. Form cannot be haphazardly imposed upon materials; it must be consistent with the possibilities of those materials.39

This kind of analysis serves at once as a convenient backdrop for the present discussion and as a bridge to the discussion of forms outside works of art. It prepares the way for an acceptance of forms in the sphere of physis where there can be no question of a subject-dependent origin. Since Dewey does recognize the objectively relative character of forms in works of art, it is not surprising to find that he extends this objective relativism to the realm of physis. In so doing, he provides us with a more thorough characterization of what he means by “form.”

In a word, form is not found exclusively in objects labeled works of art. Wherever perception has not been blunted and perverted, there is an inevitable tendency to arrange events and objects with reference to the demands of complete and unified perception. Form is a character of every experience that is an experience. Art in its specific sense enacts more deliberately and fully the conditions that effect this unity. Form may then be defined as the operation of forces that carry the experience of an event, object, scene, and situation to its own integral fulfillment. The connection of
form with substance is thus inherent, not imposed from without.
It marks the matter of an experience that is carried to consum-
mation [AE 142].

Obviously, the most crucial dimension of this citation is the ex-
panded and explicit definition of form. Since it comes after his ad-
mission that forms are not discovered exclusively in art, we expect a
definition that is generalized enough to find application in all be-
ings and not in conflict with the more restricted one presented
earlier. Yet there are some differences between the two. The earlier
definition argued that objects are formed when “raw material has
undergone a change that shapes the parts and arranges these parts
with reference to one another with a view to the purpose of the
whole.” The emphasis in this description of forms fell on the “raw
material,” the part-to-whole relationship, and the purpose for that
relationship. This definition is especially conducive to application
within techne as the examples Dewey used, a rug and a spoon, in-
dicate.

In the passage now under discussion, none of these elements is
explicitly mentioned. They have not been abandoned, but an alter-
ation in emphasis has meant a more generalized expression on Dew-
ey’s part. Instead of dealing with raw materials, Dewey prefers in
this instance to mention items that imply a material constituent of
some sort, “events,” “objects,” “scene,” and “situation.” By dealing
with the “operation of forces,” Dewey has shifted the emphasis to
process and activity. We must keep in mind that Dewey is constantly
refuting the static view of reality, and since form is often associated
with this view, he is careful to point out that his is a dynamic doc-
trine of forms. Form has to be seen as an outcome, a result.

By using the term “experience” Dewey has introduced the im-
portance of the environment/organism interaction to the under-
standing of form. Experience is a pivotal term in this quotation,
and to understand it fully, we have to be clear on how Dewey him-
self understands this word. Experience and Nature quite appropri-
ately is the source for Dewey’s clearest characterizations of experi-
ence. “It is not experience which is experienced, but nature—stones,
plants, animals, diseases, health, temperature, electricity, and so on.
Things interacting in certain ways are experience; they are what is
experienced. Linked in certain other ways with another natural ob-
ject—the human organism—they are how things are experienced as well" (EN 12–13). The most important portion of this passage is the clause asserting that "things interacting in certain ways are experience," for it indicates that in using the word "experience" in defining forms, Dewey wishes to stress the contextual situation of "event," "object," "scene," and "situation." Each is involved in a process of activity in its environment. None is an isolated existent.

Finally, there is the consideration of the telic dimension. In the earlier quotation, this was described in anthropomorphic terms as "purpose." This word has now been abandoned. In its place is another anthropomorphic, but less mentalistic, expression, "integral fulfillment." The change is significant. "Purpose" is still caught somewhat in the subjective–objective bifurcation. "Integral fulfillment" points rather to an objectively relative situation. The subject-dependent orientation of "purpose" has disappeared. At the same time, "integral fulfillment" indicates a procedure of synthesizing which can occur only in relation to the context in which an existent finds itself.

Each of these key terms, "forces," "experience," and "fulfillment," is linked in the quotation by the verb "carry." This is used to indicate the spatial and the temporal relationships integral to an experience, relationships on which the fulfillment ultimately depends. By using "carry" Dewey emphasizes at once activity and directionality, both central to his understanding of form. This passage not only incorporates all we have thus far learned about Dewey's thoughts on form, but expands the notion to a level of ontological generality.

5. Summary

"Events" are the basic ontological elements in Dewey's thought. If forms are to be discussed, they are to be considered, not as events, but as implicated in the events. "Relation" is another ontological category of importance for Dewey. All events are involved in relations with their environments, and varied relationships can lead to real novelty. Forms result whenever relationships lead to an end or fulfillment. Implicated in all beings, forms can be spoken of both in techne and in physis. There is no conflict between an ontology
that recognizes forms and one that stresses the reality of change. Forms can be defined in terms of process and activity; they are "objectively relative."

NOTES

1. "In his naturalism, his pluralism, his logical and social empiricism, his realism, his natural teleology, his ideas of potentiality and actuality, contingency and regularity, qualitatively diverse individuality—above all, in his thoroughgoing functionalism, his Aristotelian translation of all the problems of matter and form into a functional context, to say nothing of his basic social and ethical concepts—in countless vital matters he is nearer to the Stagirite than to any other philosopher" ("Dewey's Interpretation of the History of Philosophy," Philosophy After Darwin: Chapters for The Career of Philosophy, Volume III, and Other Essays, ed. Beth J. Singer (New York: Columbia University Press, 1977), p. 326. This essay was originally published in Philosophy of John Dewey, ed. Schilpp, pp. 77–102.


6. Walter Veazie recalls that while he was doing graduate study at Columbia, some of his fellow-students were trying to draw up a classification of recent philosophers. The philosopher closest to them, Dewey, was also the most difficult to categorize. Someone suggested asking him where he ought to be placed. "'That is easy,'" replied Dewey, "'with the revival of Greek philosophy'" ("John Dewey and the Revival of Greek Philosophy," 3).

7. In "Experience and Existence: A Comment," 713, where Dewey describes what he means by "metaphysics," he also admits that he has despaired of rescuing the term from its many untenable meanings. As a result, he resolved never to use the word "metaphysics" again. Nonetheless, he is careful to qualify this assertion by stating that even though the words "metaphysics" and "metaphysical" proved to be unfortunate choices "that which they were used to name is genuine and important."

8. (Chicago: Open Court, 1927), p. 5.

10. In the 1940s, Dewey sought to restructure his technical terminology. It was during this time that he vowed to stop using the word "metaphysics" (see note 7 above). During this period, also, he suggested that "interaction" should be replaced by "transaction." See John Dewey and Arthur Bentley, "Interaction and Transaction," *The Journal of Philosophy*, 43 (1946), 505–17.

11. See chap. 2, sect. 2.

12. A category is interpreted here in the Aristotelian sense of fundamental predicate. The word κατηγορία means "predicate," and, as W. D. Ross explains it, "The categories are a list of the widest predicates which are predicables essentially of the various nameable entities, i.e. which tell us what kinds of entity at bottom they are." So, as Ross tells us, if we ask what Socrates is, "the ultimate, i.e. the most general, answer is 'a substance', just as, if we ask what red is, the ultimate answer is 'a quality'" (Aristotle, p. 23). This issue will be treated at greater length later on in this chapter.

13. See chap. 2, sect. 3.

14. See chap. 3, sects. 3.2 and 3.3.

15. See chap. 4, sect. 3.4.

16. As a support for his argument of descent with modification, Darwin emphasized the similarity of embryos within a group whose adult forms would be considered distinct species. If the embryos are similar, this was because, at one time, the varied species observable at present were part of a unique original stock. Through modification and variation, novel species arose. "As we have conclusive evidence that the breeds of the Pigeon are descended from a single wild species, I compared the young within twelve hours after being hatched; I carefully measured the proportions (but will not here give the details) of the beak, width of mouth, length of nostril and of eyelid, size of feet and length of leg, in the wild parent-species, in pouters, fantails, runts, barbs, dragons, carriers, and tumblers. Now some of these birds, when mature, differ in so extraordinary a manner in the length and form of beak, and in other characters, that they would certainly have been ranked as distinct genera if found in a state of nature. But when the nestling birds of these several breeds were placed in a row, though most of them could just be distinguished, the proportional differences in the above specified points were incomparably less than in the full-grown birds" (*Origin of Species*, p. 342).

17. See chap. 4, sect. 3.4.

18. See the quotation from AE 152.


22. Dewey, however, uses the actual word "category" in a manner different from the one explained in the text. His understanding of the term is much broader than the sense in which I am using it. For him, "category" designates "the conceptions which are formulated in universal propositions." Any kind of universal concept, such as "machine" or "criminal law," is a category, providing, of course, that the classifications are understood operationally and not statically. See LTI 271-72. My own intentions in the present section are to seek out Dewey's "categories" as that term was understood by Aristotle. I am not investigating the manner in which Dewey uses the word "category."

23. Philosophical Traditions, p. 58.

24. Dewey has expressed this quite decisively in an article entitled "Time and Individuality." In so doing, he also emphasizes that process does not preclude form. "The conclusion which most naturally follows, without indulging in premature speculations, is that the principle of a developing career applies to all things in nature, as well as to human beings—that they are born, undergo qualitative changes, and finally die, giving place to other individuals. The idea of development applied to nature involves differences of forms and qualities as surely as it rules out breaches of continuity. The differences between the amoeba and the human organism are genuinely there even if we accept the idea of organic evolution of species. Indeed, to deny the reality of differences and their immense significance would be to deny the very idea of development" (ENF 236). This article was originally delivered as a lecture in 1938.

25. Dewey selected the term "event" not only for its temporal implications, but also because it encompasses "situations" as well as individuals.


27. CP 81.


29. See chap. 3, sect. 3.2.

30. This position is reinforced in a later chapter. "If we take advantage of the word esthetic in a wider sense than that of application to the beautiful and ugly, esthetic quality, immediate, final or self-enclosed, indubitably characterizes natural situations as they empirically occur" (EN 82).

31. In a note appended to "Experience, Knowledge and Value: A Rejoinder" (p. 550n33), Dewey argues that biologists are now using, with justification, the kinds of terms common in aesthetic discourse: "It may be pointed out that a large group of biologists have reached, on what they take to be experimental scientific grounds, conclusions they
call *organismic*, as over against previous 'cellular' conceptions comparable in biology to old views of atomism in physics. I do not know whether Mr. Pepper would bring against them the kind of charge he brings against me [idealism], since they also use with great freedom words like *whole*, *integration*, etc. There is, it seems to me, as much warrant in the one case as in the other" (in *Philosophy of John Dewey*, ed. Schillp, p. 550n33).

32. See the discussion in chap. 2, sect. 2.1.

33. See above, sect. 3.2. The quotation in which the synonym "structure" is used also accentuates this relationship. See the sect. 2.2. quotation from EN 64–65.


35. By making "substance" that unknown subject in which properties inhere, Locke effectively rules out the possibility that it can be understood relationally. "It is by such combinations of simple ideas, and nothing else, that we represent particular sorts of substances to ourselves; such are the ideas we have of their several species in our minds; and such only do we, by their specific names, signify to others v.g., man, horse, sun, water, iron; upon hearing which words everyone who understands the language, frames in his mind a combination of those several simple ideas which he has usually observed or fancied to exist together under that denomination; all which he supposes to rest in, and be, as it were, adherent to, that unknown common subject, which inhere not in anything else" (*An Essay Concerning Human Understanding* 23.5, in *English Philosophers from Bacon to Mill*, ed. Burtt, pp. 296–97).


37. Ibid., p. 53.

38. Ibid., p. 56.

39. Joan Miró has gone so far as to suggest that the forms sometimes come from the material. "‘Nowadays, I rarely start a picture from hallucinations as I did in the twenties, or as later, about 1933, from forms suggested by collages. What is more interesting to me today is the materials I am working with. They very frequently supply the shock which suggests my forms much as the cracks in the wall suggested form to Leonardo. I start a canvas, without a thought of what it may eventually become’" (quoted in Étienne Gilson, *Painting and Reality* [Cleveland: Meridian Books, 1959], p. 360).

40. See sect. 3.2, the quotation from AE 121.