

PERSPECTIVES on EMBODIMENT

The
Intersections
of
Nature
and
Culture

EDITED BY

GAIL WEISS & HONI FERN HABER

(1999)

ROUTLEDGE
NEW YORK and LONDON

SEVEN

AFFORDANCES: AN ECOLOGICAL APPROACH TO FIRST PHILOSOPHY¹

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The idea of "embodiment," as stressed in the philosophical work of Maurice Merleau-Ponty² and as elaborated by more recent authors, is a complex one. As the title of this volume indicates, it involves, at the very least, consideration of the influence of both nature and culture.³

This fact about the idea of "embodiment," in turn, has two immediate consequences: In the first place, it indicates—especially on the side of supposed cultural influences—how embodiment is to be distinguished from mechanistic materialism. But in the second place, much is left rather vague. What *are* the influences of nature and culture? Indeed, how is each of these to be defined? "Nature" has to include both physiology and physical environment. "Culture" is construed, by most of those who write about embodiment, as considerably more than just an array of influences that come from the human part of the physical environment. Both history and ideology—perhaps combined to produce something like what Pierre Bourdieu has called "habitus"—are important in understanding the cultural aspect of (or contribution to) embodiment.⁴ Finally, it is important to understand that, for those who have turned to "embodiment" as key to understanding the human condition, embodiment is entirely misunderstood if it is cast as no more than a passive resultant of several more or less causal forces. Central to the idea of "embodiment" is the notion of *agency*.

The importance of these several complications has led some to prefer expressions like "embodied agency" or even "engaged agency" to "embodiment" by itself.⁵ Even Merleau-Ponty, in turning to expressions like "the flesh" and "chiasm," showed some discomfort with "embodiment" as the preferred term.⁶ Without a great deal of explanation and qualification, *embodiment comes perilously close to sounding materialistic, or at least behavioristic*. For virtually all authors in the growing embodiment tradition, it is vital to avoid this implication. Materialism and behaviorism are held by these authors to make people out to be too mechanical, too passive.⁷

This concern over embodiment, and over how best to express the implications of embodiment, is no parochial question, of interest only to a few philosophers. It confronts perceptual psychologists, developmental psychologists, and psychotherapists. It may not be surprising that it has also become an important issue to some students of history and sociology, and to linguists, literary theorists, and aestheticians. But that is not all. As physicists—working within the very bastion of “objective” analysis—have tried to express what seems to be going on in the domain of subatomic nature, they have begun to suggest that physical description itself is inevitably *situated*. And within the study of artificial intelligence, support is growing for the contention that intelligence cannot be understood entirely formalistically. Intelligence must at least be embodied—it must somehow display “engaged agency”—if it is to be recognizable as intelligence.⁸

It is within this context that the contribution offered by this essay must be understood. I shall contend that a particular conception—that of “affordances”—can, when suitably qualified, offer a conceptual tool of exceptional value in the construction of a positive theory of embodied agency, and of its philosophical consequences.

I am aware that positive theories are not much in fashion in late twentieth century philosophy, but it seems to me high time that this part of the philosopher’s responsibility be more consistently met. Socratic challenge, analytic criticism, Wittgensteinian philotherapy, continental deconstruction, all are quite vital to the enterprise of making things as clear as possible, which I take to be the central aim of philosophy.⁹ But that enterprise is only half the story. Even those who criticize must try to elucidate the nature of the platform from which they mount their critique.

The positive theory of embodied agency advanced in the present essay is designed to offer a language that can be used to talk about how things are without commitment to a rigid subject/object dichotomy. In the construction of this theory, as with all constructions, it will be necessary to do some work to prepare the ground. In the case of a theory that hopes to bridge the subject/object gap, it will be necessary to clear away rubble from both sides of the gap before the new theory can be deployed. It is partly in aid of this preliminary demolition that I have chosen for this essay a title that I hope will be provocative.

FIRST PHILOSOPHY

The idea of “first philosophy”¹⁰ is closely associated with that of “foundationalism.” And foundationalism, one might think, is surely dead. Perhaps this is as much a hope as anything else.¹¹

Foundationalism is the view that there is some (relatively) small set of basic truths which has some special role to play in explaining things. What that role is supposed to be, however, may be the subject of lively debate. Perhaps the truths represent some basic facts about the universe as it really is, and these features of the universe are then jointly sufficient to determine many or all of the less basic features of the world. This kind of alleged primacy may be called metaphysical primacy, and such foundations are metaphysical foundations. Alternatively, the small set of basic truths may be truths about human knowing, and these may be held to be jointly sufficient for determining certain necessary features of all human knowledge, certain impossible features, and may even yield considerable insight into what sorts of things are (generally speaking) probable features of human knowledge. This kind of primacy may be called epistemological primacy, and such foundations are epistemological ones.

If foundationalism is dead, then that would mean that it is unnecessary—foolish, even—not only to seek foundations of either of these two kinds, but to seek any foundations at all for our understanding of our lives and our world.

There are some reasons to think that foundationalism *is* dead, or close enough as to make no difference. The quest for fundamental *metaphysical* truths about the universe as it really is, apart from how it appears to some observer, real or hypothetical, seems hopeless. Indeed, it has become less and less clear what such a “perspectiveless” perspective could possibly even mean. To this extent, those who say that human standards of meaningfulness are partly a product of (historical or developmental) cultural factors seem to be right. We are no longer sure what one is after if one searches for “metaphysical foundations.”

The situation is not really so much better, though, for the notion of epistemological foundationalism. Immanuel Kant tried out a handful of basic “categories of the understanding” as allegedly necessary for human knowing, but among these were some that seemed pretty early on to be dispensable, at least at *some* level of understanding. Not only could mathematicians work comfortably with non-Euclidean geometries, for example (which straightforwardly failed to conform to Kantian categories), but physicists like Albert Einstein could propose (and find good reason to believe) the thoroughly anti-Kantian view that our universe is basically non-Euclidean. Such things are not easy to visualize, it is true, but it certainly does not seem impossible to articulate and accept such views at some level of understanding. Thus, whatever may be said about human powers of picturing or visualizing the world, there seem to be pretty decisive reasons for rejecting the idea that Kant’s categories are fundamental to human *knowing*, and the process by which his particular proposal got

overturned serves to discourage any renewed attempts at offering modern, up-to-date lists of fundamental human categories.

Perhaps, then, foundationalism should be abandoned—and with it, the ideal of “first philosophy.” Perhaps we should not even hope to figure out any basic or fundamental truths about the world. Perhaps we should rest content with whatever more or less particular truths (or hypotheses) we can glean about the world, however it is we come by these (and if there are any to be gleaned). In some ways, this might be nice. The quest for truth is a bit less demanding if we no longer need to worry about which truths are *fundamental* in some sense. Truths in the plural would then be all we would care about, and our hope would be to bring these into some coherent arrangement. Perhaps this would be a manageable task.

It is possible, then, at least to *wish* that foundationalism were dead—or to wish that its demands would go away—so that a particular kind of vexing question might disappear. It seems especially appropriate to wish this given the apparent bankruptcy of attempts to figure out the fundamental truths.

The urge for foundations does not go away that easily, though, and I contend that it cannot. That, indeed, is one of the fundamental truths about knowing. It is not just coherence we need to seek among our beliefs . . . we need some weighting as to relative certainty. We need this in our private efforts at understanding our world, so that we may have some beliefs to rely on while we examine others;¹² and we need this as we interact with others in order to make successful interaction even possible: we need some common basis in belief for our interaction.¹³ As will become clearer in what follows, such weighting not only serves to distinguish between beliefs that are (at least for the moment) to be relied upon and other beliefs that are to be treated with some circumspection, it also serves to indicate how questions of coherence among beliefs are to be resolved. Where conflict arises among beliefs, the ones that are less certain are the ones to be investigated, reassessed, modified, etc. For this reason we *must* arrange our beliefs as to relative certainty—even if only tacitly—and the more certain ones operate very much like foundational truths. While it is possible, therefore, to consign “foundationalism” to history if one defines that term in such a way as to make it a term of art referring to particular adventures in the history of philosophy, this is hardly illuminating. In a broader sense—the sense in which what is sought is some relatively small set of truths that shed special light on how things are—foundationalism will not, cannot, go away.¹⁴

A second point that must be made immediately is that, as possible as it is that the choice of which truths to treat as fundamental could be arbitrary and idiosyncratic (or “only” culturally determined, or otherwise conventional), this is not, at least, the whole story. There are good reasons for

thinking that some truths really are more fundamental than others. These truths will be rather abstract, to be sure, and they may be about belief formation itself. But they will be no less fundamental for all that. Indeed, there is a curious possibility here that needs to be examined (if only to be rejected, in the end): it may be that the fundamental truth . . . the truth that will allow us to evaluate all further claims to human knowledge of the world . . . is that human belief is formulated in a completely arbitrary (or completely culture-bound) way. This is not an alternative to foundationalism. It is a candidate foundation.

In some sense, then, foundationalism cannot be dead. What may be dead are certain brands of foundationalism. If the argument of the last few paragraphs is correct, we must seek to secure all our beliefs as best we can, we must rank them at least implicitly in terms of their relative (and perhaps changing) certainty, and we must do this especially to serve our efforts at bringing coherence among our beliefs. We must all do this at some level or another. Those who have or wish to arrive at beliefs about knowing itself (and about the metaphysical conditions for knowing itself) must do it at *that* level.¹⁵

THE FUNDAMENTAL TRUTHS

Where shall we start, then? Shall we talk about the world that we find ourselves in? Shall we talk about big bangs and evolution and the like? Surely there is some justification for this, since human beings . . . perceivers . . . arrive on the scene pretty late, and (contemporary theories would further have us believe) what humans (and their powers of observation) *are* is a function of the demands placed upon them as growing and functioning organisms (and members of evolving species) in particular environmental niches. Shall we start, then, with physics, biology, or perhaps metaphysics?

The reference to contemporary theory should generate some discomfort. We know that there has been disagreement about these theories. Are they right? Can we rely on them at the outset in our search for fundamental truths? How can this be acceptable? Perhaps we should explore epistemology first . . . perhaps we should figure out what the criteria of acceptability are supposed to be before we blithely accept some theory about the world as our starting point. Our efforts to begin with metaphysics lead us to take up epistemology, and our efforts to dig into epistemology suggest that we need to have already taken care of the metaphysics. Where can we begin?

The question is not about *temporal* priority, of course, it is about *logical* priority. Which questions are most fundamental? The epistemological

ones or the metaphysical ones? This is the most important issue of first philosophy. What is the most fundamental kind of question, in order to get our whole inquiry up and running?

Neither a purely metaphysical approach nor a purely epistemological one will suffice. At least that is the answer that will be suggested here. First philosophy must be “ecological” in at least two senses. The first sense would be question-begging, if it were not for the second sense.

In the first sense of the term, first philosophy must be ecological in that it must consider human beings, and the way they perceive and understand their world, as functioning in an environment. Understanding the world is a species of interacting with it . . . it is not something that can be adequately understood as a passive undertaking that goes on inside a person’s head. Organisms are the products of an evolutionary process, and their lives are spent in an interaction with the world that both instantiates and models that process. The ways people have of coming to terms cognitively with their world (along with the very fact that they *must* come to terms with it cognitively) are themselves the products of selection processes of this kind. Some of the ways they deal with the world are characteristic of the species, some may be contributed by cultural or social factors, and some are idiosyncratic. But all are the products of interactions of organisms in environments. None arises out of a vacuum, or a quasi-divine whim. There are qualifications to be offered to this picture, but as it stands it will do for now. First philosophy must be ecological because its subject is dually dependent on factors inside and outside of the organism.

Surely, though, if this is all that could be said on the subject, we would be relying upon a biological theory that is itself part of what we are supposed to be providing foundations for.

Thus, more must be said. There is a slightly different sense in which first philosophy ought to be ecological. It is a metatheoretic sense, and does not presume the truth of any biological (or other putatively empirical) theory. Instead, it is only *inspired* by the particular way of looking at things that is characteristic of modern approaches to evolutionary biology. Ecological biology serves thus as a *model* for ecological first philosophy.

THE ECOLOGICAL APPROACH AS “METATHEORY”

To suggest that an ecological approach is the best way to proceed in a particular domain of inquiry is a strategic proposal, first and foremost. If a particular strategic proposal in first philosophy (for example) is followed, then it may very well have numerous consequences for metaphysics and epistemology, but the proposal itself must find its justification in its fruit-

fulness, measured along some fairly clear dimension. In what way might an ecological approach bear fruit?

An ecological approach acknowledges that some domains of inquiry are best tackled by understanding them not solely as collections of discrete and autonomous objects interacting in clean, singular exchanges of causes and effects, but as full-fledged systems, within which influences are continuous and reciprocal, and within which the lines that distinguish objects from one another—and even objects from the observer—are not solely a matter of objective fact, but are rather—at least partially—a function of the purposes of whoever describes the situation. Furthermore, it explicitly acknowledges that human learning (or even “knowing”) is something that goes on in particular settings, with particular constraints, and with particular purposes.

The approach outlined above might very well be called a “holistic” approach (indeed, holistic approaches to this and that usually offer the same sort of critique of alternatives that is common among partisans of the ecological approach), but this expression does not sufficiently emphasize the dynamic interaction that characterizes the world and the encounters we humans make with that world. The word “ecological” is much better in this respect.

There are a number of strikingly similar critiques of the traditional subject/object dichotomy arising from various perspectives. Elizabeth Fee, for example, offers a critique of “dominant/dominated power relations articulated and reproduced within scientific knowledge.”¹⁶ Fee points to the similarity between “feminist” critiques of science and epistemology and other critiques offered from African, Native American, Chinese, and working-class perspectives.

While Fee herself generally follows the usage that refers to this critique as “feminist,” she not only points out the similarity among this divergent array of criticisms of the “dominant” epistemological approach, she notes also that the sharp distinction between subject and object, at least as canonized in the traditional ideal of scientific “objectivity,” has really been dominant for only the last few hundred years, and that it is to be identified, not with science as such, but with particular traditions in science. The question concerning what to *call* the approach that tries to avoid rigid subject/object distinctions is not too pressing, really, and Fee’s opting for the label “feminist” is perfectly apt for the purposes she has in mind (especially since she herself calls attention to the problem of nomenclature).

Whatever conclusions one arrives at about the proper way to characterize the approach that I am calling “ecological,” the large critical literature that exists on this subject (whether holistic, Marxist, feminist, phenomenological, anticolonialist, postmodern, pragmatist, or something else) will be of

great value, in the discussion that follows, insofar as the critique of the subject/object distinction is their common cause.¹⁷

The upshot of this section, then, is that the “ecological” approach to first philosophy is not one that relies upon findings in evolutionary biology. At a metatheoretic level, we may certainly learn valuable methodological lessons from that discipline, but we are not begging the questions most basic to first philosophy by adopting an ecological approach. An ecological approach to first philosophy no more presupposes the truth of contemporary evolutionary biology than a more transparently foundational approach presupposes the empirical adequacy of, say, Euclidean geometry.

As suggested by the title of this essay, though, the ecological approach to be taken here does rely upon “affordances.” I take it that it is reasonably clear by now what I mean by an “ecological approach to first philosophy.” It will be the objective of the next two sections to explain what is meant by an “affordance.”

ONTOLOGY DEOBJECTIFIED

Ontologies—maps of the metaphysical terrain—are usually formulated in terms of arrays of independent objects of some kind, fully separate—at least in *some* dimensions—from one another and from those who create or use the maps. Thus, a fairly rigid subject/object distinction has been included in the traditional conception of ontology itself. It is no wonder, then, that rigid subject/object distinctions seem nearly impossible to avoid in substantive ontologies: the very project of mapping the metaphysical world has seemed to presuppose them.

Rigid subject/object distinctions are troublesome, however. In physics, they have become questionable both in attempts to characterize what occurs in the quantum domain—and as a result of quantum phenomena in the macroscopic domain—as well as in attempts to characterize the laws of physics in as general a way as possible. In psychology, they have caused problems in attempts to understand both perception and conception. In cognitive science, they seem to be responsible for apparently intractable dilemmas concerning the seemingly disparate realms of the mental and the physical. In more generally philosophical areas, rigid subject/object distinctions have spawned radical idealism, radical behaviorism, doctrines of immortal souls, mechanical animals, magical pineal glands, and a great deal more that has, to put the matter modestly, been difficult to swallow. As many have noted from a variety of philosophical and more practical traditions, it would be nice to be able to avoid rigid subject/object distinctions.¹⁸

A reasonable place to look for remedies to this situation may be in the area of basic ontology. For however widespread the tendency has been to understand ontology in terms of arrays of independent objects at arms length from (when not in principle completely inaccessible to) observing subjects—and these latter as somehow nonmaterial yet physically efficacious—there is nothing necessary about such an equation. Ontology, as I shall show in the next section, need not be conceived in this way.

AFFORDANCES AND ONTOLOGY

The term “affordance” evolved in the course of J. J. Gibson’s attempt over thirty years and more to reconceive perceptual psychology. Affordances may be defined, for present purposes, as opportunities for action in the environment of an organism.¹⁹

Gibson traced the ancestry of the concept of affordances back to a term coined by Kurt Lewin in 1926, “Aufforderungscharakter.”²⁰ This term was translated a few years later into English variously as “invitation-character” and as “valence,” the latter gaining the widest acceptance. Kurt Koffka, who was a colleague of Gibson’s at Smith College from 1928 to 1941, and whose influence on Gibson was profound, used the term “demand-character” in 1935 to encompass the same basic idea.²¹

Koffka used the notion of demand-character to capture his suggestion that mailboxes “invite” the mailing of letters, handles “want” to be grasped, chocolate “wants” to be eaten, etc. The idea is that things in our experience are not just neutral lumps to which we cognitively attach meaning. The things we experience “tell us what to do with them.”²²

All this would be fine, according to Gibson, if it were not for the fact that Aufforderungscharaktere were held by Lewin to be elements of a “phenomenal field,” rather than in the physical world, and Koffka understood his demand-characters to be part of what he called the “behavioral” environment rather than the “geographical” environment.

Gibson insisted that affordances, as contrasted with these other notions, are in the world. They are opportunities for action in the environment of the organism. These opportunities are “picked up” by organisms as they negotiate the world. Affordances, he argued, do not change as the moment-to-moment needs or moods of the observer change. Affordances in the environment are offered by things like surfaces that can be stood upon, places that present opportunities for hiding, things that are reachable, and things that are climbable. While which things are reachable depends in large measure on characteristics of the organism (what is reachable for me is not necessarily reachable for my thirteen-year-old son

Dylan, although the differences between us in this regard are presently changing rapidly), and while these may change from time to time in the organism's life, they do not vary just as a function of psychological state.

The positive affordance of an object can be perceived whether or not the observer needs to take advantage of it. It offers what it does because it is what it is. The uses of things are directly perceived, as Lewin and Koffka sometimes realized, but this is not because of a force between the object and the ego in the phenomenal field, as they believed; it is only because the substance and the layout of the object are visible and these determine its use.²¹

While the *concept* of affordances has not caused people much trouble, the way Gibson and his followers have deployed the concept has been quite controversial. Most of Gibson's critics would probably grant that the notion of affordances is an interesting and useful one. What has not gone over so well is the idea that it is *these*, rather than rocks and tables and chairs and the like—and rather than sense data—that are the primitive objects of perception.

Furthermore, Gibson claims that affordances are perceived *directly*. While his critics have been able to accept much of the rest of this “ecological” approach to the study of visual perception, they reject the claim that the perception of affordances is not mediated by a more primitive perception (or sensation) of objects (or sense data).

The upshot is this: the typical critic argues that Gibson is right that organisms perceive affordances in the environment, and that this is an important feature of perception. He is held to be wrong in his characterization of how this works. Organisms do not perceive affordances directly (i.e., unmediated by either neutral sense data or neutral object recognition). Instead, an organism first is barraged with data, some of which it can pick up with its perceptual organs. Some of this data is converted to images and patterns of various kinds: more or less coherent patches of color, noises, etc. These sensations, then, are themselves processed and sorted into objects, thus providing the organism with a minimal perceptual perspective on its world. Finally, the organism focuses attention on portions of that world as it recognizes the opportunities and dangers presented by the several objects it perceives. Far from being direct, the critic would argue, the recognition of an affordance is the result of a fairly high-level perceptual process, requiring recognition and evaluation mechanisms that work with data provided by sensory mechanisms.

While Gibson and his followers have written volumes in response to this kind of criticism, that response finally comes down to a few rather simple theses.

First, they argue that this “internal processing” model is circular. It requires that the internal processors be able to do the very things that are supposedly being explained. For example, the internal processing model suggests that an organism is able to recognize that certain things in its environment are important to it because it has an internal processor that recognizes this.²⁴

Second, Gibsonians argue that there is no neurophysiological evidence (i.e., no non-question-begging evidence) that supports the notion that the human brain is functionally arranged into “processors” of the relevant kind.²⁵ Thus, the internal processing model can be evaluated only in the same *systematic* way as the direct perception model, and the internal processors must be regarded as nothing more than theoretical constructs like egos, ids, and superegos.²⁶

Third, those who favor the idea of direct perception argue that such an approach highlights the active involvement of the organism with its environment even in perception, has much in common with lines of research that have proven illuminating in other areas of research (e.g., evolutionary biology, philosophy of science, quantum mechanics, more general work in perceptual psychology), and does not require the postulation of internal processors for which there is little or no neurophysiological evidence.

Whatever the merits of Gibson's approach to perceptual psychology, however, the style of his argument makes it extraordinarily interesting in connection with first philosophy. Thus, I now turn to an examination of the bearing that affordances have in this area.²⁷

AFFORDANCES AS ONTOLOGICAL PRIMITIVES

I propose that affordances can be taken as fundamental ontological entities; that they may be taken, indeed, as being *ontologically* prior to objects and events. Attention to affordances as fundamental ontological “objects” seems to me to direct attention away (in a useful manner) from consideration of such things as quarks and electrons and fields of force as being ontologically fundamental. Thus, it is not just rocks and chairs and tables—and sense-data—that are at risk of being deposed, if this approach to ontology is correct.

Here is what I have in mind. There are, of course, rocks and trees. But like hiding places, they are picked up and individuated against their backgrounds because of their use value. Indeed, the same is true of quarks and electrons, black holes and super-novae. They are identified as individuals, and they become prime foci of attention within the environments they inhabit, because of their affordances in a particular domain of possible action.

Merleau-Ponty distinguished among different modes or styles of animal behaviors on the basis of the sophistication with which this was done:

[I]t should be possible—and it is necessary—to classify behavior, no longer into elementary and complex behavior as has often been done, but according to whether the structure in behavior is submerged in the content or, on the contrary, emerges from it to become, at the limit, the proper theme of activity. From this point of view, one could distinguish “syncretic forms,” “amovable forms” and “symbolic forms.” These three categories do not correspond to three groups of animals: there is no species of animal whose behavior *never* goes beyond the syncretic level nor any whose behavior *never* descends below the symbolic forms. Nevertheless, animals can be distributed along this scale according to the type of behavior which is most typical of them.²⁹

The idea in Merleau-Ponty, as it was for Gibson, is that animal behavior is best understood in terms of alertness to opportunities for action. While all animals move through their worlds in a kind of attunement with affordances, different animals show different degrees of complexity in their appreciation of multiplicities of affordances available in particular parts of the surrounding environment. He suggests that some animals are better able than others, in a given circumstance, to see that an item that has just been used for the achievement of one goal could also immediately be used for the achievement of another.

Merleau-Ponty uses the behavior of chimpanzees as an example.²⁹ They seem to be able to use a box either for leaning on (on some occasions) or for climbing on (on others). But just having leaned on it, it is not perceived as climbable-on, and vice versa. It is as if what is seen is thing-to-lean-on or thing-to-climb-on (but not both at the same time), rather than the “box” that *we* see, which is capable of both usages.

Now, to see that something is a box—indeed, simply to see a box—is, on the approach I am recommending, simply to see a particular constellation of affordances. Similarly with rocks and trees. One *could* work within an analytical framework that portrays rocks and trees as being primitive objects, and affordances as being derivative. That, of course, is the traditional—even commonsensical—approach: that we see rocks and trees and (derivatively) see *that* they afford certain actions. But this approach misunderstands not only the way perception works, I maintain, but the entire way we and other animals approach our worlds—and thus it misunderstands the way worlds (in the plural) of objects, events, and the like are carved out of the world (in the singular). All animals perceive affordances. Some animals are better able than others to see subtle multiplicities of affordances in specific parts of their environments.³⁰ This is not *causally*

related to the different behavioral capacities of different organisms; rather, it is a logical consequence of, or another way of expressing, these different capacities.

Rocks and trees would not *be* objects for organisms so constructed as to be offered no opportunities for action by them. *That* they are objects—i.e., that they are picked out as significant individuals and kinds from the background—reflects their affordance character. This relationship between what there is and the behavioral capacities of organisms shows basic ontology to be in one sense relativized, yet in another sense objective. As it was for Einstein and Bohr in physics, so it is for us in metaphysics/epistemology: while ontology must be relativized to what different observers can do in terms of affordances, this is no mere matter of what the observer *thinks* or *believes*. It is a function of what the observer *can do*, and this may be as objective a matter as anyone could hope.

Understanding ontology in terms of affordances thus bridges gaps that would otherwise leave room for questions of relative priority between epistemology and metaphysics. One cannot talk about affordances without talking about *both* metaphysics and epistemology at the same time (or alternately, at least). Indeed, where affordances are the things being discussed, metaphysics and epistemology turn out to be disciplines that address the same basic array of issues from two different partially abstracted points of view: to use the contrast often discussed in connection with certain results of contemporary quantum mechanics, the points of view are those of the observer and of the observed.³¹ Within ecological psychology, the contrast would be between the organism and its environment. For *any* way of characterizing the contrast, the important feature to be noted is that neither contrasted pole (or “point of view”) can be characterized independently of the other. “Environments” just *are* organism-indexed parts of the world. “Organisms” are just parts of the world distinguished, for present purposes (whatever they may be), from what they are embedded in. “Observers” and the “things” or “processes” or “systems” that they observe are just portions of the world that are set apart or distinguished from one another for particular investigative or narrative (or other) purposes. Different purposes may very well require different parsings of the world.³² What is real is an infinitely complex array of use-potential—or affordances—which can be spoken about in terms of “relationships” only once someone has crystallized *some* of the potential into objects (or other entities) that can stand in relations to other similarly constituted “things.”

The deployment of affordances as metaphysical/epistemological primitives helps also in the expression of some well-known themes in epistemology and philosophy of science. It has been argued by some that “all observation is theory-laden.” This theme has had an important role to play

in efforts to understand the ways theory and observation interact in science, but it has considerably broader application than just this. While the theme has occasionally been taken to implausible extremes, most commenters have agreed that there is considerable truth to the claim that observation is often, anyway, affected by antecedent belief.³³ What a scientist sees in an experimental setting will be affected, to some extent, by what is expected (i.e., in particular, by what the scientist is *led* to expect by theory).

The broader application extends to all of us in our perception of our environments. The argument goes that we see what we expect to see. The unexpected is often suppressed, in perception.

Clearly, this is only part of the story. We cannot arrange to see what we want, simply by arranging our expectations appropriately. Our expectations are often disappointed, and our observations often yield, much to our chagrin, puzzles that we do not understand. As Abner Shimony has pointed out, while it is true that one *can* document the effects of perceptual readiness in experimental tests of human observation of controlled scenes, it is equally plain in such perceptual research that perception *resists* the influence of beliefs, on occasion.³⁴

Nevertheless, there can be no doubt that there is an interesting relation between *conception* (especially the beliefs we have about how the world works, about what sorts of things are to be found in the world, etc.) and *perception*. The literature concerning the theory-ladenness of observation has led fairly conclusively to the abandonment of the once-popular view that observation can provide a neutral, objective test of theory (or, more broadly again, of antecedent belief in general). While there has been considerable argument about the extent of the theory-ladenness of observation, few who have involved themselves in this discussion would deny, by now, that observation is fallible as a test. What we perceive—or observe—is, to some extent at least, infected by our beliefs, by the category schemes that we are accustomed to deploying, by our expectations. While such factors may not be *decisive* in observation, they cannot be ignored.

The idea that observation or perception is at least *influenced* by beliefs and “category schemes” seems uncontroversial, once we see what is meant in this suggestion. The problem has been to understand the extent to which there is anything *uninfluenced* in this way. Kant’s well-known solution already noted that there was little to nothing that could be *said* about the noumenon (whatever there was in the world that was independent of the experienter) that was not infected by the categories that were brought to experience by the observer. But Kant thought that the pure forms of intuition and the categories of judgment were fixed in advance, by the necessary nature of knowledge and experience as such, for all potential observers. Thus, there was

something “given” about certain *forms*, such that they could be counted on to inform all possible experience.

All this is familiar. But it is in connection with this set of issues that it is easiest to understand the felicitous role that affordances play in first philosophy. Contrary to Kant’s vision, the perceptual readiness or theoretical set with which we frame particular experiences varies not only from time to time and from culture to culture, it varies from moment to moment in any individual’s life as a function of interest, purpose, desire, and the like. It is relative to this changing background that the world gets cast in terms of opportunities and risks—in terms, that is, of affordances. In short, it is the logic of affordances that provides detail in the account of how theory is packed into observation, how conception affects perception, how behavioral orientation, intention, or purpose exerts its powerful influence over the way environments are parsed among things and events, the way figure emerges against ground, and the way attention is directed.

Affordances serve, finally, as analytical units of embodiment. It is not an embodiment that is merely physical—the language of affordances relativizes ontology not simply to the physical body, but to what an agent *can do*. The “environment” within which affordances may be deployed is not only the perceptual environment, but the entire universe of potential action.³⁵ What it is comprised of and how it is parsed will be a function of affordances. The embodied agent is “embodied” precisely insofar as the agent’s capacities and functions are understood as deriving in vital part from activity, rather than from a priori gift or passive assimilation of external messages.

As analytical units of embodiment, affordances emphasize the fundamental character not only of subjective reality, but of any way that worlds could be at all. The sense in which worlds are made rather than found is the sense in which worlds are (and must be) *parsings* of the potential that is available to embodied agents as they engage and are engaged by the world. This is emphatically *not* just a matter of clarifying the necessary conditions for *characterizing* the world, since to *be* a world just is to be a parsing of that potential. And, of course, the last few sentences (these ways of understanding the world, which parse the world into bare potential and parsers) do not escape these constraints. They explicitly cast the world in terms of opportunities for action in the environment of engaged agents—in terms, once again, of affordances.

Affordances thus help to elucidate both the theoretical insight and the dynamic implications of the idea of embodiment and engaged agency. They further the project of pursuing philosophical understanding of ourselves in our world without invoking a rigid subject/object distinction, and they do it in a way that is on the one hand considerably less mystifying

than “the flesh” and “chiasm,” while on the other hand at least is consistent with fruitful recent work in both natural and social sciences.

Affordances, in short, deserve to be given a leading role in the fully ecological first philosophy that one hopes will finally emerge from the ashes of traditional dualism.

NOTES

1. This paper was read and discussed at the University of Helsinki in November 1995. A longer and substantially different version was presented at the University of Waterloo, Ontario, in February 1994. Earlier versions of parts of the essay were read and discussed at the Niels Bohr Centennial Symposium, Rochester Institute of Technology, May 1985, and at SUNY College at Buffalo, April 1988, and parts of the essay were discussed at the Fifth International Conference on Event Perception and Action, Miami University, Ohio, July 1989, and at the International Workshop on Formal Ontology in Conceptual Analysis and Knowledge Representation, Padova, Italy, March 1993. I am grateful to the participants at these several meetings for their comments and suggestions, to David B. Suits for an especially thoughtful reading of an early version, to Gail Weiss for more recent suggestions, and to Marx Wartofsky and Marjorie Grene for calling my attention, two decades ago and more, to J.J. Gibson in the first place. Finally, I owe thanks to Hubert Dreyfus and David Hoy, the organizers of the 1994 NEH Summer Institute on “Embodiment,” which not only was the catalyst for this volume, but which also helped me to see how my thoughts on affordances might be brought to bear on problems I hadn’t yet dreamt of. I would like to honor, in this paper, the memory of Honi Haber, Ed Reed, Sam Todes and Marx Wartofsky.
2. See especially Merleau-Ponty, *Phenomenology of Perception* (London: Routledge, 1992), pp. 67–199.
3. The “at least” serves as a cautionary marker for my discomfort with a general neglect of *particularity* in most recent discussions of embodiment, in favor of a perhaps too Platonist leaning toward the influence of the general. There will be some occasion in what follows to hint at my own conviction that “nature” and “culture”—taken, as they usually are, as general, even rule-governed influences—cannot entirely account for what any one of us is, thinks, says, or does. I do not have magic in mind as an alternative, of course. I mean to emphasize the idiosyncratic—the *particular*. In a suitably broad sense, I would acknowledge that *everything* is natural. But this broad sense is not the one typically indicated in the arguments of those who regard individuals as entirely shaped by nature and culture. Such arguments usually have general natural and cultural shaping forces in mind, sometimes quite specific ones. I am convinced that there is also a (natural) something there that is shaped, that offers *resistance* to such forces, as well. This topic is plainly too big to confront in this essay, which is (after all) devoted to another issue. For thought-provoking discussion of embodiment that takes seriously the particularity of the embodied agent, see Samuel Todes, *The Human Body*

as *Material Subject of the World* (New York: Garland Publishing, 1990).

4. See Bourdieu, *The Logic of Practice* (Stanford: Stanford University Press, 1990), especially pp. 52–65.
5. See, for example, Charles Taylor, “Lichtung or Lebensform: Parallels between Heidegger and Wittgenstein,” in his *Philosophical Arguments* (Cambridge, MA: Harvard University Press, 1995), pp. 61–78, especially pp. 22–25 and 62–63. Taylor suggests that embodiment proper may best be considered a particular *aspect* of engaged agency, and compares this latter to what Heidegger called the “finitude” of the knowing agent.
6. Merleau-Ponty, *The Visible and the Invisible* (Evanston, IL: Northwestern University Press, 1968), especially pages 130–55.
7. Whether *Skinnerian* behaviorism, with its focus on *operant* conditioning, is really guilty of this charge is an extremely interesting question that really ought to be addressed carefully by someone who knows Skinner’s work well. See B.F. Skinner, *Science and Human Behavior* (New York: The Free Press, 1953).
8. The prime mover in this area has been Hubert Dreyfus. See his *What Computers Still Can’t Do* (Cambridge, MA: MIT Press, 1993). See also John Hauge-land, “The Plausibility of Cognitive Psychology,” *The Behavioral and Brain Sciences*, Vol. 1, No. 2.; Charles Taylor, “Cognitive Psychology,” in his *Human Agency and Language: Philosophical Papers I* (Cambridge: Cambridge University Press, 1985), pp. 187–212; John T. Sanders, “Experience, Memory and Intelligence,” *The Monist*, October 1985; and Sanders, “An Ecological Approach to Cognitive Science,” *The Electronic Journal of Analytic Philosophy*, Issue 4 (Spring, 1996). URL: <http://www.phil.indiana.edu/ejap>.
9. And philosophy, as it seems to me *should go* without saying, is hardly the private property of those with advanced degrees in the academic discipline that has been given the *name* “Philosophy.” Twentieth-century academic philosophy is marred by far too much attention to the questions: Which particular array of questions are really philosophical? What is the proper activity of the philosopher, which distinguishes philosophy from all other disciplines? As far as I can see, philosophy has always been just the activity of trying to gain clarity on questions that have (at some place and time) thus far eluded clear resolution (or, in many cases, even expression). The philosophical questions in any area of inquiry—or of life—are the ones that even the “experts” debate. When philosophical discussion of some issue yields a resolution that is widely agreed upon, whether in the form of a relatively clear answer or in the form of a way of looking at things that avoids the original puzzle, then the issue largely ceases to be a philosophical problem. This has at least two interesting consequences. First, problems that have not yet been resolved in any satisfactory way after centuries of discussion may look like they will *never* be resolved, and people who are interested in those problems might appear to be a bit dotty. This may not be the case, of course; but, then again, it may. Second, though, now that academic inquiry has been disciplinized, the *new* philosophical problems that arise may very well appear in disciplines other than academic philosophy. That is perfectly normal—it’s the way things always have been. This doesn’t make “philosophy” archaic, it just makes it senseless to try to contain philosophy within some arbitrary academic boundaries.

10. Or "prima philosophia," as in Jürgen Habermas, "Themes in Postmetaphysical Thinking," in his *Postmetaphysical Thinking: Philosophical Essays* (Cambridge, MA: MIT Press, 1992), pp. 28–51; or "philosophy of origins" ("Ursprungsphilosophie"), as in Theodor Adorno, *Against Epistemology: A Metacritique* (Oxford: Blackwell, 1982).
11. For the most unequivocal renunciation of foundationalism, see the works of Richard Rorty. Especially interesting in this connection are his *Philosophy and the Mirror of Nature* (Princeton: Princeton University Press, 1979) and the essays collected in his *Objectivity, Relativism, and Truth: Philosophical Papers Volume 1* (Cambridge: Cambridge University Press, 1991). See also the essays by Rorty in Józef Niznik and John T. Sanders (eds.), *Debating the State of Philosophy: Habermas, Rorty, and Kotakowski* (Westport, CT: Greenwood, 1996).
12. Beliefs, that is, that are relatively far from what W.V.O. Quine referred to as the "sensory periphery" ["Two Dogmas of Empiricism," in his *From a Logical Point of View* (New York: Harper Torchbooks, 1961), pp. 20–46], or (in science, anyway) relatively close to what Imre Lakatos called the "hard core" of a research program ["Falsification and the Methodology of Scientific Research Programmes," in Imre Lakatos and Alan Musgrave (eds.), *Criticism and the Growth of Knowledge* (Cambridge: Cambridge University Press, 1970), pp. 91–196].
13. For exhaustive discussion of the dynamics of communication, common understanding, and common action, see the works of Jürgen Habermas. Especially useful is his *The Theory of Communicative Action* (Boston: Beacon Press, 1984 & 1987), published in two volumes. A good place to begin might be the section in Volume One entitled "Intermediate Reflections: Social Action, Purposive Activity, and Communication," pp. 273–344. See also Habermas, "An Alternative Way out of the Philosophy of the Subject: Communicative versus Subject-Centered Reason," in his *The Philosophical Discourse of Modernity* (Cambridge, MA: MIT Press, 1987), pp. 294–326.
14. While clearly trying to distance himself from "foundationalism" construed in the narrow sense, Charles Taylor urges a kind of extension of traditional philosophy which is quite in congruence with the kind of foundationalism I espouse. See his "Overcoming Epistemology," in *Philosophical Arguments*, pp. 1–19, especially p. 14.
15. Jürgen Habermas argues (correctly, in my view) that a renunciation of transcendent philosophical ambitions need not lead to Rortyan "ethnocentrism." Habermas urges that Rorty's attempt at avoiding any appeal to something other than what he and his peers agree to (where these peers are actually defined in terms of Rorty's beliefs, rather than in terms of Rorty's *ethnos*) must fail, and is indeed a symptom of unselfconscious philosophizing. His contention that in all serious discourse there *must* be some allusion to standards at least alleged to be independent of that discourse is akin to my argument, here in the text, that foundations by any other name are still foundations. See Habermas, "Coping with Contingencies: The Return of Historicism," in Niznik and Sanders, *Debating the State of Philosophy*.
16. Elizabeth Fee, "Critiques of Modern Science: The Relationship of Feminism to Other Radical Epistemologies," in Ruth Bleier, ed., *Feminist Approaches to*

- Science* (Elmsford, NY: Pergamon, 1986), pp. 42–56, p. 53.
17. I am grateful to Deborah Johnson for calling my attention to Fee's extremely interesting essay.
18. This does not imply, of course, that there is anything that is everywhere and always *wrong* about a subject/object distinction made in a fairly rigid, a priori way. As is the case for any other theoretical distinction, whether a rigid subject/object distinction is apt will depend upon the theoretical circumstances. My argument, then, is that such a distinction is emphatically *inapt* given the circumstances faced at present in first philosophy, and that these circumstances are themselves in many respects the results of developments in science, in culture, and even in other areas of what continues to be called "philosophy" (presumably for want of a widely agreed-upon method of resolution).
19. These "opportunities" are not always beneficial to the organism, of course. Some of them, in fact, are likely to be quite threatening. Thus, "opportunity" is probably not the best word to use. I welcome suggestions of terms that are more apt. The best single source, though, for Gibson's own discussion of affordances is *The Ecological Approach to Visual Perception* (Boston: Houghton Mifflin, 1979). For discussion of the interestingly close parallel between the development of Gibson's ideas, on the one hand, and the development of the thought of Merleau-Ponty, on the other, see John T. Sanders, "Merleau-Ponty, Gibson, and the Materiality of Meaning," *Man and World*, July 1993.
20. Kurt Lewin, "Untersuchungen zur Handlungs- und Affektpsychologie II. Vorsatz, Wille und Bedürfnis," *Psychologische Forschung* 7, 330–85. For Gibson's discussion of this history, see his "Notes on Affordances," in Edward Reed and Rebecca Jones (eds.), *Reasons for Realism: Selected Essays of J.J. Gibson* (Hillsdale, NJ: Lawrence Erlbaum, 1982), 401–18, especially pp. 409–10.
21. Koffka, *Principles of Gestalt Psychology* (1935).
22. See Koffka, *Principles of Gestalt Psychology*, p. 353, and Gibson, "Notes on Affordances," p. 409.
23. Gibson, "Notes on Affordances," p. 409.
24. For a criticism of such an argument as used in explanations of memory, see John T. Sanders, "Experience, Memory and Intelligence." For what is surely the most heroic effort to make this kind of argument work, see Daniel Dennett, *Consciousness Explained* (Boston: Back Bay Books, 1991).
25. A good example involves the "storage model" of human memory. The storage model has been uncritically adopted by *most* researchers, to the point where the locution "memory storage" seems to be taken by many people to be simply *synonymous* with "memory." Thus, for example, when discussing research that seems very promising in terms of explaining neurophysiological mechanisms that underlie memory in humans, Daniel L. Alkon consistently speaks of these mechanisms as comprising "storage" facilities (see Alkon, "Memory Storage and Neural Systems," *Scientific American*, July 1989). This does not follow at all. When I flick the wall switch for my overhead light with a movement of my hand, I change the state of the electrical system in a clear-cut way; there is a perfectly plain mechanical explanation for what has happened and why the system (in particular, the lightbulb) now behaves differently. But it is an extremely

was working with—which in Gibson's terms is clearly a scale involving the degree to which affordance-complexity can be appreciated—was of vital importance.

30. As Merleau-Ponty was aware, it is probably wrong to think that there is a simple continuum of increasing sophistication among different animal species. The ability of one species to appreciate subtlety of use-potential in a particular part of their environments may be balanced by inabilities in other areas, compared to other species.
31. Although the terms "observer" and "observed" are the ones that have been standard in discussing some of the curiosities of quantum mechanics, these terms do not really capture the real sense of what is at issue. What's really at stake are boundaries that distinguish between what's inside and what's outside a system. In the now infamous "Schrödinger's Cat" saga, the suggestion is made that, on the Copenhagen interpretation of quantum mechanics, there is no fact of the matter about whether physical events have occurred or not (insofar as they are determined by events at the quantum level) until some observation is made of the system. This is inexact. Take your favorite system of cat-in-box-cum-death-ray (or whatever). Call this system "*S*." Whenever the events within *S* lead to effects outside of *S*, a new, larger "system" is invoked: the larger system includes *S*, but it also includes these effects that are external to *S*. Call this new, larger system "*S*'." The issue of whether the cat is alive or dead is *closed with respect to S*' whenever the events within *S* have effects within *S*'. When this latter system includes an experimental physicist (or Humane Society investigator), we may rightly speak of "observation."
32. For a "nominalist" perspective on the matter of parsing the world in terms of "projectible predicates," and for a discussion of the relation of all this to "inductive inference," one simply *must* see Nelson Goodman, *Fact, Fiction, and Forecast* (Indianapolis: Bobbs-Merrill, 1965), pp. 59–83. For some moderating considerations regarding Goodman's claims, see Patrick Grim's unpublished essay "Tangled Up in Grue." Since Patrick hasn't worked very hard at getting this essay published, it would be entirely appropriate for people to harass him for copies by mail. He can be contacted at the Department of Philosophy, SUNY at Stony Brook.
33. One very influential source for this view within mid-twentieth century philosophy of science has been N.R. Hanson, *Patterns of Discovery* (Cambridge: Cambridge University Press, 1958). Hanson's view has powerful traditional antecedents, going back at least to Kant.
34. For a very nice corrective to some Hansonian excesses, see Abner Shimony, "Is Observation Theory-Laden? A Problem in Naturalistic Epistemology," in Robert G. Colodny (ed.), *Logic, Laws, and Life: Some Philosophical Complications* (Pittsburgh: University of Pittsburgh Press, 1977); reprinted in David L. Boyer, Patrick Grim and John T. Sanders (eds.), *The Philosopher's Annual: Vol. I - 1978* (Totowa, NJ: Rowman & Littlefield, 1978), pp. 116–45.
35. See John T. Sanders, "An Ontology of Affordances," *Ecological Psychology*, vol. 9, no. 1 (1997): pp. 97–112.
- stretched metaphor that would have it that the movement of my hand is now "stored" in the electrical system. For all its prettiness as a metaphor, it is quite inapt for purposes of clear explanation of what is going on. It is the state of the system that has changed. This is most evident, in the case of the electrical system, in the fact that no mechanism need be postulated for the purpose of "retrieving" or "recovering" the information that is supposedly stored. That "information" is now implicit in the state of the system. The same story, I would argue, can be told of the "internal processor" or "indirect" model of memory and, more generally, of the corresponding model of perception. It seems to me that a large part of the problem involves the dogged commitment of many or most people in cognitive science to the idea that the things that happen to us must somehow be internally *represented* if they are going to do us any good as experiences. Andy Clark tries to handle some of these issues by distinguishing between "encoding" conceptions of representation, on the one hand, and "control" conceptions. See Clark, "Moving Minds: Situating Content in the Service of Real-Time Success," in J. Tomberlin (ed.), *Philosophical Perspectives 9: Connectionism, AI and Philosophical Psychology* (1995), pp. 89–104. While I agree that one *can* talk in this way, I think such insistence on "representation" talk is part of what keeps cognitive science in the Cartesian Theater. See Sanders, "An Ecological Approach to Cognitive Science." For an interesting alternative general theory of perceptually guided action and practical intelligence, see David John Hilditch, "At the Heart of the World: Merleau-Ponty and the Existential Phenomenology of Embodied and Embedded Coping," unpublished Ph.D. dissertation, Washington University of St. Louis, 1995.
26. This is not to say, of course, that there is anything wrong with theoretical constructs of this kind. Rather, the point is that competing sets of theoretical constructs must be evaluated as such, using criteria that attempt to clarify both systematic advantages and disadvantages of each.
27. The extension of the idea of affordances into areas beyond the ones discussed by Gibson himself is quite natural. For a very elegant explanation of the extension of affordances into the area of social perception, one which is as natural as it is powerful, see Harry Heft, "Affordances and the Body: An Intentional Analysis of Gibson's Ecological Approach to Visual Perception," *Journal for the Theory of Social Behavior*, vol. 19, no. 1 (March 1989), pp. 1–30. The move beyond Heft's proposal to the application of affordances as ontological primitives seems to me to be similarly natural and similarly powerful. It is certainly similarly motivated.
28. Merleau-Ponty, *The Structure of Behavior*, trans. Alden L. Fisher (Boston: Beacon Press, 1963), p. 168. For discussion, see John T. Sanders, "Merleau-Ponty on Meaning, Materiality, and Structure," *The Journal of the British Society for Phenomenology*, vol. 25, no. 1 (January 1994): 96–100.
29. While there is good reason to think that Merleau-Ponty and his contemporaries were somewhat mistaken about the capabilities of chimpanzees, the chimp example does a fine job of showing what Merleau-Ponty meant. And while he may have been wrong about the details concerning which things chimpanzees could and couldn't do, he was certainly right in thinking that the scale of comparison he