MODERN SCIENTIFIC WORLD VIEW AND VALUE SUBJECTIVISM

by

Gene G. James
Professor of Philosophy
University of Memphis
Memphis, Tennessee, USA

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INTRODUCTION

One of the most notable of the features that distinguish modern Western culture from ancient and medieval Western cultures, and from Eastern cultures, is the widespread belief that value is a subjective phenomenon. Facts, it is maintained, exist independently of those who experience them and can be argued about rationally, but values are dependent on the experiencing subject and cannot be argued about rationally. If people disagree regarding the factual properties of something, there are standard procedures such as weighing the object which will resolve the dispute, but if they disagree whether a work of art is beautiful there are no such procedures, and consequently no rational way to resolve the dispute.

Many people who accept the doctrine that value is a subjective phenomenon, fail to see its implications for social policy. For if there is no rational way to resolve value disputes, then there is also no way to show that one social practice or form of government is better than another. But, many people in the West firmly believe that there is no rational way to resolve value disputes, and at the same time maintain that democracy can be demonstrated to be the best form of government and capitalism the best economic system for all people. They fail to notice the inconsistency of their beliefs because the situations in which they affirm one are usually quite different from those in which they affirm another, and intellectual lethargy and the pressure of everyday living keep them from critically examining their beliefs regarding values.

This inconsistency of belief can be found not only among the general population, but among the scientific community as well. It is, in fact, especially characteristic of scientists who espouse the scientific method on the grounds that it is value free, and at the same time praise democracy and capitalism as providing the best conditions for the practice of science.

The fact that many scientists, especially those in the physical sciences, believe value to be a subjective phenomenon, is not surprising when one examines the origin of modern experimental science. For modern experimental science and value subjectivism developed together as twin doctrines of the same world view. Indeed, the historical connection between them is so close that many people think that it is logically contradictory for anyone to have a scientific world view and affirm that value is an objective phenomenon.

In this article I show that value subjectivism was an integral part of the early modern scientific world views of such thinkers as Galileo Galilei and Rene Descartes, trace its further development in David Hume and Immanuel Kant, and then draw on the work of John Dewey to point out some of the problems with value subjectivism and show that it is indeed possible to have a philosophy that takes science seriously and builds on it, without subscribing to the view that value is a merely subjective phenomenon.

EARLY MODERN SCIENTIFIC WORLD VIEWS

One of the most influential thinkers in the development of the early modern scientific world view was Galileo. Consider the following passages from Galileo's Il Saggitore (The

Assayer) which I think may justly be called the locus classicus of modern value subjectivism:

> Whenever I conceive of any material or corporeal substance, I am necessarily constrained to conceive of that substance as bounded and as possessing this or that shape, as large or small in relationship to some other body, as in this or that place during this or that time, as in motion or at rest, as in contact or not in contact with some other body, as being one, many, or few....But I do not at all feel myself compelled to conceive of bodies as necessarily conjoined with such further conditions as being red or white, bitter or sweet, having sound or being mute, or possessing a pleasant or unpleasant fragrance....Were they not escorted by our physical senses, perhaps neither reasoning nor understanding would ever, by themselves, arrive at such notions. I think, therefore, that these tastes, odors, colors, etc., so far as their objective existence is concerned, are nothing but mere names for something which resides exclusively in our sensitive body (corpo sensitivo), so that if the perceiving creature were removed, all of these qualities would be annihilated and abolished from existence. But just because we have given different names to these qualities, different from the names we have given to the primary and real properties, we are tempted into believing that the former really and truly exist as well as the latter.[1]

To further explain his position Galileo gives the following example:

> Suppose I pass my hand, first over a marble statue, then over a living man. So far as the hand is concerned, it will act in an identical way upon each of these objects; that is, the primary qualities of motion and contact will similarly affect the two objects....But the living body...will feel itself affected in various ways, depending upon the part of the body I happen to touch; for example, should it be touched on the sole of the foot...it will feel, in addition to simple contact, a further affection to which we give a special name: we call it 'tickling.' This latter affection is altogether our own, and is not at all a property of the hand itself....Again a piece of paper or a feather, when gently rubbed over any part of our body whatsoever, will in itself act everywhere in an identical way....But we, should we be touched, between the eyes, on the tip of the nose, or under the nostrils, will feel an almost intolerable titillation....Now this titillation is completely ours and not the feather's, so that if the living, sensing body were removed, nothing would remain of the titillation but an empty name. And I believe that many other qualities such as taste, odor, color, and so on, often predicated of natural bodies, have a similar and no greater existence than this.[2]

Galileo goes on to argue that although heat is also thought to be an objective phenomenon, it too is a secondary phenomenon dependent on experiencing subjects and having no existence apart from them.

I wish to call attention to four implications of Galileo's remarks which I think were especially influential in establishing value subjectivism as a dominant trait of modern Western culture.

The first is that he seems to assume that reason is capable of attaining certain ideas totally independent of the senses. These ideas, such as those of, shape and motion, are necessary for us to think about any external object. However, our ideas of odor, color, etc, are not of this type and we would never have them except for certain subjective experiences that are the result of our bodies being affected by external objects. Words denoting such phenomena as odors and colors should, therefore, be taken as referring to subjective states, rather than to properties of objects existing independently of us. They do not denote real qualities, only subjective states, and we are mislead if we think they refer to anything outside our subjective experience.

Here is the inspiration for both Descartes' distinction between innate and adventitious ideas and his distinction between primary and secondary qualities. Indeed, Descartes famous reflection on a piece of wax in which he concludes that the odor, color, and sweetness of the wax are not in fact properties of the wax, that the only real qualities of the wax are properties such as extension and motion, is little more than a gloss on Galileo's comments.[3]

The second implication of Galileo's remarks to which I wish to call attention is that if secondary qualities such as color and heat exist only in us, and not in the external real

world, then any feelings and emotions elicited by secondary qualities must be even less real and more subjective. To say, for example, that we find a certain configuration of colors in a painting beautiful, becomes a statement of a subjective reaction to a subjective reaction. Or stated differently, if colors are secondary qualities existing only in our experience, and not in the objective world, then the beauty of the colors must be even more subjective, a tertiary quality twice removed from external reality.

This must also be true of ethical qualities such as the wrongness of an action. That is to say, it follows from Galileo's doctrine, that just as describing a day as dreary is not to say anything about the day, only something about one's reaction to the day, to say that an action is wrong is not in any way to describe the action, but is only to record one's subjective response to the action. It is also follows that if another individual says that the action is right, that speaker is not contradicting the first speaker, because his or her statement also records only that person's subjective response to the action. Statements having the forms 'A likes X' and 'B does not like X' are not contradictory because they not about the same subject, A's feeling being the subject of the first statement, and B's the subject of the second. They can not be about the same subject because, just as there is no property 'dreariness' which is a feature of certain days, there is no property 'wrongness' which is an objective characteristic of actions. Both words refer to subjective states of individuals.

The emotive theory of ethics formulated by Charles Stevenson, and Logical Positivists such as A. J. Ayer, in the twentieth century, is therefore, only a drawing out of consequences

implicit in Galileo's and Descartes' views.

However, the conclusion that if value judgments express only subjective reactions then there is no way to resolve disagreements by rational means, had already been drawn by David Hume in the eighteenth century, although Hume's formulation of this doctrine lacks the clarity of the twentieth century emotivism. Speaking of value responses as "passions" Hume stated:

> A passion is an original existence, or, if you will, modification of existence, and contains not any representative quality, which renders it a copy of any other existence or modification. When I am angry, I am actually possest with the passion and in that emotion have no more a reference to any other object than when I am thirsty, or sick, or more than five foot high. 'Tis impossible, therefore, that this passion can be oppos'd by, or be contradictory to truth and reason; since this contradiction consists in the disagreement of ideas, consider'd as copies, with those objects, which they represent.[4]

Hume's statement exhibits some confusion, so that it is not apparent on first reading what he is maintaining. On one hand, he seems to be saying that if it is said that someone is angry, thirsty, or five feet tall, those are properties that refer solely to that person, not to anyone or anything else. And of course it is true that statements that Smith is angry, thirsty, or five feet tall, are ascriptions of properties to Smith, not to someone else. But, that does not mean that those same properties may not be correctly ascribed to other individuals. On the other hand, he seems to be saying that the properties in question refer to purely subjective states of individuals, and, therefore, words that refer to them cannot be taken as referring to anything existing apart from such individuals. But, his point is obscured by his having included the property of being five feet tall among the properties mentioned, since

this is obviously a property that can be attributed to things that exist apart from the subjective states of human beings. A more plausible way of interpreting what he meant, seems to be that the act of valuing something is one of responding with a passion, and passion is not something that can be appraised as correct or incorrect. The idea of being five feet tall is introduced because, in Hume's opinion, one can no more justify having a certain passion than one can justify being five feet tall. Passions are simply events that happen to one, just as one grew to be five feet tall without any effort on one's part. One can justify the claim that a particular person is five feet tall by taking appropriate measurements, but it makes no sense to speaking of justifying the fact that one is five feet tall.

If Hume's view is correct, one could similarly justify the claim that Dietrich Bonhoeffer felt that Hitler acted wrongly in murdering Jews by citing Bonhoeffer's writings. But Bonhoeffer's feeling that Hitler acted wrongly could not be justified. Since 'wrongness' refers to a purely subjective feeling, the fact that Bonhoeffer had that feeling tells us something about him, but it tells us nothing about Hitler's action. Any supposed wrongness of Hitler's action is a property of Bonhoeffer's reaction, not an objective property of the action itself. Furthermore, if Bonhoeffer had changed his mind, he could not be said to have contradicted himself or to have acted irrationally. Nor would anyone who says that Hitler's action was right be contradicting Bonhoeffer, since that person's statement would likewise express only his or her subjective response to Hitler's action.

The consequences of this view are far reaching, because if it is true, it follows that there is

absolutely no way for anyone to justify any value judgement. One could not give reasons to justify, say, democratic socialism, as better or worse than any rival institution. Nor could one rationally condemn others, no matter how they might act. Hume states this consequence of the view in a succinct manner when he says:

> Where a passion is neither founded on false suppositions, nor chuses means insufficient for the end, the understanding can neither justify nor condemn it. 'Tis not contrary to reason to prefer the destruction of the whole world to the scratching of my finger. 'Tis not contrary to reason for me to chuse my total ruin, to prevent the least uneasiness of an Indian or person wholly unknown to me. 'Tis as little contrary to reason to prefer even my own acknowledg'd lesser good to my greater.[5]

Notice that just as this doctrine precludes any justification of one social policy as opposed to another, it also undermines any justification of either self-interest or egoism. If one accepts such a doctrine, then there is in fact no reason for doing or not doing anything whatever. Indeed, insofar as this doctrine is accepted, philosophy conceived as a search for wisdom, i.e., an inquiry into how one ought to live one's life, has been abandoned. Not only can philosophy, when it is limited in this fashion, not tell one which form of government is best, it cannot even assure one that it is more reasonable to prefer one's own greater good to one's lesser good.

At the close of the Inquiry Concerning Human Understanding Hume recommends that all books on theology and metaphysics be burned because they contain nothing but sophistry and illusion. The suggestion is that, unlike empirical inquiry, they are worthless for improving the human condition. And in the Inquiry Concerning the Principles of Morals he defines moral judgments as disinterested approval of those actions we believe to be

beneficial or useful to humanity in general. Moral judgments, he says, therefore differ from judgments of self-love in which we take only our own interest into consideration.

> In all determinations of morality, this circumstance of public utility is ever principally in view; and wherever disputes arise, either in philosophy or common life, concerning the bounds of duty, the question cannot...be decided...than by ascertaining...the true interests of mankind.[6]

Virtue is defined accordingly as those character traits and modes of behavior that benefit the individual and/or humanity in general, and vice as those are harmful to the individual and/or humanity in general. To determine whether an action is virtuous or vicious one must examine its consequences. When this is done one discovers that some practices previously thought to be virtues are in fact vices:

> ...as every quality which is useful or agreeable to ourselves or others is, in common life, allowed to be a part of personal merit; so no other will ever be received, where men judge of things by their natural unprejudiced reason, without the delusive glosses of superstition and false religion. Celibacy, fasting, penance, mortification, self-denial, humility, silence. solitude, and the whole train of monkish virtues...are...everywhere rejected by men of sense...because they...neither advance a man's fortune in the world nor render him a more valuable member of society....We justly, therefore, transfer them to the opposite column, and place them in the catalogue of vices....[7]

Since Hume was an open-minded and just individual, I am certain he would have been willing to listen to counter-arguments to his claims here. If anyone could have shown him that any of the practices mentioned did benefit individuals, without at the same time harming society, he would have revised his position. But, he probably would have been much less likely to give a hearing to anyone who proposed abandoning human welfare as the primary criterion for deciding vice and virtue because he took effort to promote human welfare as defining the moral point of view. He would have given even less of a hearing to

anyone who denied that there is any difference between the moral point of view and that of self-interest, or who maintained that there are no good reasons for choosing the former over the latter. For as he remarked in the opening lines of An Inquiry Concerning the Principle of Morals:

> Disputes with men, pertinaciously obstinate in their principles, are, of all others, the most irksome; except, perhaps, those with persons, entirely disingenuous, who really do not believe the opinion they defend, but engage in the controversy, from affection, from a spirit of opposition, or from a desire of showing wit and ingenuity, superior to the rest of mankind....Those who have denied the reality of moral distinctions, may be ranked among the disingenuous disputants; nor is it conceivable, that any human creature could ever seriously believe, that all characters and actions were alike entitled to the affection and regard of everyone.[8]

Unfortunately, Hume's remarks here are inconsistent with those quoted earlier. If value judgments are only expressions of passion, and value terms lack any reference to anything other than our own subjective states, then the moral rightness of an action cannot be defined in terms of its promoting human welfare. Nor would there be any way to establish that moral behavior is in any way more admirable or better than selfish behavior. For, if the foregoing view is true, then as Hume himself so dramatically stated, it would not be unreasonable for someone to prefer the destruction of the entire world to the scratching of their finger. Thus, it is not only members of the general population and scientists, who since the beginning of modern European culture have frequently held inconsistent beliefs regarding value, but influential philosophers such as David Hume as well.

The only consistent position for someone who accepts the views that have been deduced from Galileo's formulation of the doctrine of primary and secondary qualities, would be to

waste no time thinking about moral distinctions and to ignore them in their conduct. If one judged solely on the basis of Galileo's lack of discussion of such matters, and his selling of his talents to the highest bidder to make weapons of war, then Galileo apparently did both. Descartes, on the other hand, resolved to simply live by the customs and laws of his country, without any critical examination of them, except where they seemed to be contradictory and then to follow those that were most convenient in avoiding social conflict. Of course, not everyone should devote their lives to ethical analysis or social action, and both Galileo and Descartes were engaged in other important work. Furthermore, my intention is not to blame Galileo and Descartes for their relative silence on moral issues, but to point out that if one accepts the distinction between primary and secondary qualities, and the implications that have been deduced from it, one has in principle disbarred oneself from making any rational judgments regarding human affairs. Galileo and Descartes at least have the merit of acting consistently in this respect while Hume does not. Logical Positivists who were silent in the face of Nazi atrocities were also acting consistently, while those who gave arguments to show that Hitler was acting wrongly were not. However, if Descartes were to defend his choice of always acting on those customs that were personally convenient for him, he too would be acting inconsistently, since as we saw above, given the view of value implicit in the doctrine of primary and secondary qualities, there are also no good grounds for choosing those actions which are in one's self-interest over those that are not. At least this is true according to Hume, who, as we have seen, maintained that it is not irrational for someone to prefer their lesser to their greater good.

As indicated above, the only consistent position for someone who believes that value is a purely subjective phenomenon would be to refrain completely from making value judgments and remain silent. But such a course of action would be suicidal in a world in which we are constantly forced to make choices in order to survive. As also pointed out above, it would in addition mean abdication of the traditional role of philosophy as the search for wisdom. Indeed, if such a view is accepted it is impossible to even draw a distinction between wise and foolish action.

A third feature of Galileo's thought that was influential in establishing value subjectivism as one of the dominant views of modern Western culture was the assumption that the real world is not identical with the one disclosed to us through our senses, but is a mechanistic order governed by universal, necessary, laws, which can be known only through theoretical reason. The primary tools that give us knowledge of this realm are controlled experiment and mathematics. Descartes' dualistic division of reality into Mind and Matter is an elaboration and further development of this assumption. Mind as conceived by Descartes is a subjective realm of immediate awareness, ideas, and emotion, while Matter is an objective, public, realm of invariant, deterministic laws, that can be adequately described only through the use of mathematical symbols.

Although Galileo believed that the real world is quite different from the one disclosed to us through sensory perception, he nevertheless retained a tie between the subjective mental world of immediate experience and the external physical world, through the assumption that

the mental world was a causal result of the physical. This tie to reality was cut by Descartes who argued that because he could imagine that he had no body, he was justified in henceforth assuming that this was the case and that his sole attribute was that of thought. Despite the fact that by this kind of argument one could prove anything whatever, Descartes conclusion was widely embraced. With the acceptance of Cartesian dualism, the chief theoretical problems of philosophy became whether the external world even existed at all, how if there were any other minds one could know them, and how to reconcile the apparent freedom of human thought and action with the deterministic order of nature. The first two issues are especially silly, arising only if one accepts Descartes' unfounded dualism, but have continued to be debated until the present day, consuming much of the attention of so-called analytic philosophers in the twentieth century. Thus, Cartesian dualism furthered value subjectivism in two ways: directly by moral beliefs coming to be thought of as purely personal matters, and indirectly by philosphers' attention being shifted away from ethical and public policy issues to pseudo problems that were in principle unsolvable given the premises that led to them.

A fourth implication that follows from Galileo's view, and again one that Descartes stated in a more explicit fashion, is that if external nature is a machine, animals must also be machines, and as a consequence we need not concern ourselves with their feelings or wellbeing. This view has frequently been reinforced in the modern period by an interpretation of the commandment in Genesis that humans are to subdue the earth and exercise dominion over the animals, as giving us the right to do whatever we wish to the

earth and other species. The dominant conception of value is the modern period, therefore, has not only been a subjectivistic one in which value is conceived as a property of experiencing individuals, but an anthropocentric one in which the individuals having such experiences are limited to human beings. However, anthropocentricism has usually not been argued for in any explicit fashion, but simply taken for granted, as in the remarks from Hume cited above. On the other hand, there has been a minority view, represented by Jeremy Bentham, that identifies value with the subjective feelings of individuals, but insists that because animals seem to experience the same kind of emotions as humans, they too must be capable of experiencing value, at least the more highly evolved animals. The crucial question to ask in determining if a being is capable of experiencing value, Bentham maintained, is not is it capable of reasoning, but is it capable of suffering.

Although appeal to the capacity to reason as a criterion for ascribing value to individuals has been the primary factor supporting anthropocentricism in both the ancient and modern periods of Western culture, it is important to note that reason was conceived quite differently in the ancient world than in the modern. In the ancient world reason was seen primarily as a passive faculty, which, when it is functioning correctly, mirrors an independent structure of reality. Acting reasonably was accordingly seen as simply acting in conformity with, rather than in futile opposition to, the laws disclosed by reason in its knowing capacity.

Reason, in the modern period, on the other hand, with regard to both its theoretical and

practical functions, has frequently been conceived of as an active faculty imposing its own order on reality. Such a conception of reason understood as a theoretical faculty was elaborated in great detail by Kant in The Critique of Pure Reason. A parallel conception of reason as a practical faculty, autonomously imposing self-made rules on itself, was developed by Kant in his ethical works. However, Kant was inconsistent in also describing practical rules as imperatives that have a source of authority apart from the human beings who made them, and which should, therefore, be recognized as governing human behavior whether or not they in fact do. The source of this inconsistency was that Kant conceived of reason in both a concrete way as a specific feature of human beings, differentiating them from the rest of the organic world, and in an abstract way not localizable in specific individuals. To the extent that Kant thought of reason in the latter way, as a disembodied faculty disclosing rules having an authority independent of individuals who formulate and impose them on themselves, he was reverting to the older conception of reason. But, to the extent that he thought of reason as a specific, embodied, feature of human beings, synonymous with their capacity to formulate and obey rules, his conception of reason contributed to subjectivistic and anthropocentric views. Kant presupposed the latter embodied conception of reason, for example, when he argued that animals lack intrinsic worth because, unlike humans, they are incapable of reasoning and therefore of acting from duty. It follows, according to him, that we have no direct duties regarding animals, and may treat them anyway we wish, although we should guard against indifference to the pain of animals conditioning us to become insensitive to the pain of humans as well. It seems hard to avoid the subjectivistic conclusion here that animals are being excluded from having

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worth because, unlike most humans, they are incapable of having a certain experience. In this case, however, the experience they are said to lack is that of reasoning rather than suffering.[9] It should also be noted that in Kant's opinion it is not only animals who lack the capacity for reason, but women and non-European males also fall short in this respect as well. "Women," he states in Observations on the Feeling of the Beautiful and Sublime, "avoid the wicked not because it is unright, but because it is ugly....They do something only because it pleases them....I hardly believe that the fair sex is capable of principles....One should not at all demand sacrifices and generous self-restraint."[10] And the following remark from the same work captures his attitude toward both women and non-Europeans:

> Father Labat reports that a Negro carpenter, whom he reproached for haughty treatment toward his wives, answered: 'You whites are indeed fools, for first you make great concessions to your wives, and afterward you complain that they drive you mad.' And it might be that there were something in this which perhaps deserved to be considered; but in short, this fellow was quite black from head to foot, a clear proof that what he said was stupid.[11]

JOHN DEWEY'S CRITICISMS OF THE FUNDAMENTAL ASSUMPTIONS OF VALUE SUBJECTIVISM AND HIS VALUE OBJECTIVISM

Value subjectivism is inevitable if one starts from the assumptions regarding experience, the nature of the self, and its relation to the external world, found in Galileo and the other thinkers who have been discussed. The primary problem is that the self is conceived of as

a disembodied ego existing independently of the world. Experience is then necessarily thought of as a subjective phenomenon having a problematic relation to the external world. Despite Galileo's initiation of modern science on a path of active experimentation, in subsequent European thought the self was conceived of as an active agent only in the sense that it was thought to contribute certain ideas that organize perception. This is true even of Kant who boasted that he had brought about a Copernican revolution in philosophy. Although Kant repudiated the Lockean conception of the self as a tabula rasa, an inert substance analogous to a lump of wax on which impressions are stamped by outside events, the self is active for him only in the sense that it possesses an a priori mental structure through which all perceptual experiences must be strained. The Kantian self is thus analogous to a meat grinder that is constructed in such a way that whatever kind of meat is fed into it, one knows that it will come out ground in a certain way. The self for Kant is not an active agent interacting with its environment, actively planning and carrying out experiments, predicting and controlling events, and engaging in engineering projects. These kinds of activities are hardly mentioned at all by Kant.

Even though the growth of science and industry in the modern period suggests the conception of the self as an active agent transforming its environment, such a theory of the self did not arise until after Darwin showed how all organisms are in constant interaction with their environment, being both transformed by it and in turn transforming it. At the same time Darwin swept away the basis for anthropocentricism by treating humans and other species as products of the same process, sharing many features in common and

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differing only in degree, not in absolute qualities.

One of the first philosophers to grasp the revolutionary implications of Darwin's work was John Dewey. The manner in which we acquire knowledge, Dewey insisted, is not via a passive mirroring of the world, or through an automatic processing of data strained through a fixed a priori mental apparatus, but by examining things, seeing how they function and interact with other things, and noting the consequences of placing them in novel situations. Science, Dewey maintained, is not different in kind from ordinary, everyday, knowledge, but is an extension of it based on a refinement and improvement of the methods by which we acquire such everyday knowledge. Science is also a repository of our most tested and trusted conclusions, the collective knowledge humans have been able to attain. Any supposed theory of knowledge that does not depart from, and explain, scientific practice is, therefore, inadequate in failing to account for what we ordinarily mean by knowledge. Skepticism regarding any previously accepted theory, and a willingness to reexamine the evidence on which it rests, are an integral part of science. But theories that call science into question in a wholesale fashion by insisting on a degree of certainty that is impossible to attain, are not only inadequate as theories of knowledge, they are a form of fanaticism.

Experience, Dewey argued, is not a merely subjective phenomenon that takes place in isolation from the external world, but is both a product and a record of our interactions with the world. It discloses the way the world is because it arises within the world. It may, therefore, be said to "reach down into nature,"[12] rather than being an kind of

epiphenomenon floating on the surface, or a veil hiding reality from us. This, Dewey believed, is as true of aesthetic and moral experience as it is of other types:

> 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 science.[13]

If we wish to predict or control the behavior of something, taking note of its color or odor may not be as important as recording its weight and motion, but the former properties are as genuine features of the object as the latter. This is also true, Dewey insists, of any aesthetic qualities the object might have. The beauty of a flower is not just in the eye of the beholder, but is as much a property of the flower as its mass or color. If this were not true, any object whatever might be found to be beautiful, regardless of its other qualities. But, in fact, it is only certain types of things that we find beautiful. Aesthetic qualities then, according to Dewey, are equally "found, experienced, and are not to be shoved out by some trick of logic."[14]

'Experience,' Dewey held, following William James, is a "double-barrelled word,"[15] that refers to both the process of our interactions with the environment and the outcome or product of those interactions -- what we are aware of as a result of them. Our attention is usually focused on the latter, on what the experience discloses to us about the world, but on occasion we may shift our focus to attend to the experiencing itself rather than to what is being experienced. When we shift our attention in this way the epistemic or evidential

features of experience are ignored. For example, looking at the sun is normally taken as an epistemic experience providing us information about an objective feature of our environment. But if the sun is so bright that the experience becomes a painful one, we are likely to shift our attention away from what is being experienced to the experiencing itself, with a subsequent desire to alter the situation. Focusing on the immediate subjective aspects of an experience in this way, rather than on what it discloses to us about the world, is the exception rather than the rule.

Our response to stomach pains provides another example of such a shift of attention from the objective to the subjective aspect of experience. As long as stomach pains are not very intense, we normally pay very little attention to them, taking them perhaps as merely evidence that we need to eat. But, if we suffer severe stomach pains, our attention is likely to shift to the pain itself and how we can rid ourselves of it. It is important to note, however, that even in this case, the pain still functions as a mode of awareness, informing the individual that some problem exists which is causing the severe pain. Not even pleasure and pain, then, are purely subjective phenomena, cut off from the world in the way Descartes believed colors and odors were.

If any one were to argue that while it is true that colors, odors, and even beauty, are indeed properties discovered in experience, they nevertheless disclose features of the world only as it is experienced by us, and not as it is in and of itself, Dewey's response would be that such a person is making an unverifiable claim. For, on the one hand, one cannot know what the

world is like except as it is experienced by us, and, on the other, the fact that we can only know things as experienced by us does not mean that all we are experiencing is our own experience. For this is to take experience in its subjective aspects only, and it is exactly such a logical trick or sophistry that is the basis for Cartesian dualism, rendering ordinary knowledge and science problematic and plunging us into such silly disputes as to whether the external world and other persons really exist.

Some experiences are indeed untrustworthy, giving rise to deception and illusion, but the only way we can discover this is by contrasting them with other more veridical experiences. Willingness to suspend belief regarding the evidential worth of any particular experience is an integral part of both common sense and science, but wholesale skepticism that claims that all we ever know is our own subjective states is a form of madness, not wisdom. Indeed, as shown above, one of the consequences of such skepticism is the obliteration of the distinction between wise and foolish belief, imprisoning us in a subjective world where we cannot consistently engage in value judgments at all.

Dewey thus rejected both those views of knowledge that see it as a passive mirroring of nature, and those such as Kant's that restrict it to a subjective a priori organizing of experience while simultaneously denying that we can ever know the world as it actually is. Both views arise, in Dewey's opinion, from a Cartesian conception of the self as a disembodied ego, carrying with it a necessarily problematic relation to the external world. Knowing, according to Dewey, is instead a form of doing, one that arises from agents

interacting with their environments in an overt and physical manner, the highest level of knowledge being found in the sciences.

Humans, Dewey maintained, are not aliens thrust into a strange world they are incapable of understanding. Nor are they cut off from it, inferring its existence from sense data that serve as a curtain to hide what it is really like. Biologists do not find it mysterious that plants are adapted to the soil in which they grow, nor that the soil is in turn capable of fulfilling their needs, because the two evolved together. Human beings are similarly at home in the world, because they too evolved in interaction with it.[16] Unless we were adapted to the world in this fashion we could not survive. Knowing is therefore not a mysterious affair in which a disembodied ego somehow leaps beyond its own realm to know a material realm totally different from itself. It is one of the ways in which humans have adapted to their environment. Or, because prediction and control are essential features of knowledge, it is the primary way humans have adapted their environment to themselves.

In abandoning the view of the self as a disembodied ego, Dewey also jettisoned the conception of reason that went along with it, in favor of the idea of intelligent behavior. Reason was thought of in the ancient world as a faculty that provided knowledge of transcendental realms not accessible to the senses. Mathematics constituted knowledge of one such realm, a world of ideas connected by relationships discoverable by reason, but incapable of being fully exemplified in the lower world of the senses. Ethics provided knowledge of another transcendental realm, one containing ideas on which one could

pattern one's life, but which again could not be fully exemplified in the material realm. This conception of reason as providing knowledge of transcendental realms not knowable by the senses is also found in early modern writers such as Descartes, but as the subjectivist implications of modern world views came to be more fully grasped, reason tended to be thought of as merely the ability to discern logical relations between concepts, having nothing to do with either transcendent realms or human conduct. This latter conception of reason is, e.g., operating in Hume when he say that it is not unreasonable for someone to prefer their lesser to their greater good.

Whether reason is conceived of as awareness of a transcendental realm or as merely the ability to grasp logical relations, it is a capacity that disembodied egos might conceivable have. Intelligent behavior, on the other hand, presupposes the concept of an organic agent interacting with an environment. For behavior is intelligent only to the extent that individuals are capable of taking some things or events in their environment as signs of other things or events, and then utilizing this knowledge to prevent or bring about certain outcomes. For example, black clouds may be taken by someone as a sign that it is going to rain, and shelter sought before the rain begins. Or permanent shelters may be constructed to provide general protection from the weather. An intelligent being is thus not at the mercy of its environment, responding only to immediate stimuli such as its actually beginning to rain before it seeks shelter, but anticipates and prepares for events before they occur. Reason, in the sense of achieving logical consistency among one's ideas, plays a role in intelligence, but is subordinate to foresight. This is why Dewey always placed more emphasis

on inductive rather than formal logic.

The concept of intelligence also presupposes an organic being with certain needs and goals. These needs and goals are a consequence of its evolutionary development and cannot be understood apart from both the nature of the being and the environment of which it is a part. For example, the idea of hunger necessarily involves a reference to not only an organism undergoing a certain experience, but to external objects that are capable of satisfying the hunger. Whether something will serve as food for an organism depends on both the nature of that thing and the nature of the organism. Given a certain type of organism, only certain things are capable of becoming food for it. Some things will nourish it and allow it to flourish, others will poison and kill it. Some things, that is to say, are good for it, others harmful. Nor is this a matter of opinion, but one of verifiable fact, because only an objective search involving a process of trail and error can determine what is or is not good for an organism.

Of course not all needs are biological; some are psychological and social. But is it not equally a matter of verifiable fact that children deprived of love and companionship develop behavioral patterns that are destructive to both themselves and others? In my opinion, only people trapped in an unwarranted subjectivism arising from a dualistic world view of the sort that has been discussed, or who are otherwise biased, would deny the truth of this assertion. It is equally true, in my opinion, that certain practices, such as lying or cheating others, invariably lead to a situation of strife and conflict between people, while telling the

truth and honesty promote social harmony. And once again it is trial and error and collective human experience that has shown this to be the case.

For someone who accepts a pragmatic view such as Dewey's, resolving a value dispute, is, therefore, not different in principle from resolving a factual dispute. If one wishes to sail a boat from one part of the world to another, there are certain principles of navigation, which if followed will increase the likelihood of success, and which if ignored will almost certainly lead to disaster. Similarly, if one wishes to live harmoniously with one's fellow beings, there are certain principles which if followed will promote this, and which if ignored will thwart it. And in both cases the justification for the principles is not that they are the product of a priori reasoning or self-evident, but their pragmatic utility in furthering the desired goals and promoting human welfare. Nor does the situation change when other species are included within the scope of the moral. Although humans have throughout history for the most part ignored the interests of their fellow organic beings, it would be disingenuous to claim that it is not possible for us to know what is good or bad for them. Although they are for the most part unable to communicate their needs to us, the fact that we share a common ancestry aids us in discovering their needs and how they may be satisfied.

Even emotions such as fear, Dewey argued, are not nearly so subjective as they have been thought to be. Just as the idea of hunger involves a reference those things that would satisfy it, fear implies a reference to those aspects of the environment that pose a threat to the

individual. Fear is thus not a purely subjective quality, but a psycho-physical phenomenon locatable neither exclusively in the organism nor exclusively in the environment but emerging from an interaction between the two. People correctly fear certain things, Dewey points out, because those things are fearful, i.e., potentially harmful. Of course some fears may be unfounded because the situation is not as it is thought to be. In that case the fear is based on a false belief. But what if the false belief is pointed out, and the person assured that there is no danger, but the person's fear persists. In that case, would that person's fear, not be irrational? The same would be true if there was some danger present, but the fear was out of proportion to the danger. Thus, contrary to Hume, we can and do appraise emotions as justified or not justified, in addition to appraising the beliefs on which they are based as true or false.

Fear is an appropriate response to potential harmful situations, a warning of danger. It evolved because even though we are at home in the world in the sense of being situated within it and therefore capable of knowing about it through experience, including the experience of fear, the world is nevertheless a dangerous place, one that is constantly changing and not totally hospitable to life. To live in such a world it is necessary for us to constantly make judgments about good and evil. A view such as Hume's or Stevenson's that places all such judgments beyond reason and denies that there is any rational basis for choosing one way rather than another is thus manifest folly, and there is something radically wrong with a world view that leads to such a conclusion.

It follows from Dewey's theory that both the view that makes value a subjective property of individuals, and the view that makes it a property of objects existing apart from individuals and having no reference to them, are mistaken. Value resides rather in the capacity of certain objects and situations to fulfill the needs and interests of organic beings. It is thus a relationship in which both subjective and objective factors play a role. Subjective factors play a greater role in some cases than in others, more for example in a particular person finding a work of art beautiful, than in our awareness that murder is wrong. But, according to Dewey, just as objective factors play a role in what we find to be fearful, they also play a similar role in what we find to be beautiful. One may therefore take something to be beautiful which on further inspection turns out not to be beautiful. One may, that is, make a mistake in valuing because value is not just a matter of feeling, but of having appropriate feelings relative to a given objects or situations and their capacity to fulfill our needs and interests.

Although I do not have the space to discuss the issue here, I think such a view of value could help resolve the dispute in environmental ethics between those who take a biocentric view of value and those who attribute value to the environment quite apart from sentient life.

Finally, although Dewey's theory of value contains no references to God or an Ultimate, I do not see why someone who believes that the world order is due to design, rather than evolution, could not agree with Dewey with regard to the majority of the issues that have

been discussed in this article.

ENDNOTES

1. Galileo Galilei, Il Saggitore (The Assayer), trans. Arthur Danto, in Philosophy of Science, ed. Arthur Danto and Sidney Morgenbesser (New York: Meridian Books, 1960), pp. 27-28.

2. Ibid., p. 28.

3. Galileo's Il Saggitore was published in 1623 and was widely read and discussed throughout Europe. Descartes' Discourse on Method was published in 1637, although according to one of its translators, Laurence J. Lafleur, part of it was probably written as much as ten years earlier. His Meditations Concerning First Philosophy, in which the famous passage about the wax appears, was not published until 1642, and, according to Lafleur, none of it is likely to have antedated the Discourse. See Lafleur's introduction to his translations of the Discourse and the Meditations (Indianapolis: Library of Liberal Arts: Bobbs-Merrill, 1980).

4. David Hume, A Treatise of Human Nature, Book II, Part III, Sec. III, ed. L. A. Selby-Bigge, (Oxford: Oxford University Press, 1960), p. 415.

5. Ibid., p. 416.

6. David Hume, An Inquiry Concerning the Principles of Morals, Sec. II, Part II, reprint of the 1777 edition, (La Salle, Illinois: Open Court, 1966), p. 12.

7. Ibid., Section IX, Part I, p. 108.

8. Ibid., Section I, p. 1.

9. Social contract theory, derived primarily from Hobbes and Locke, but also in part from Kant, is equally anthropocentric, excluding animals from moral consideration because they are incapable of entering into contracts and agreements. Confronted with the problem of whether to grant moral status to mentally deficient humans who also cannot enter into contracts and agreements, social contract theorists usually inconsistently include them, rather than abandoning their theory as obviously not applying to all the beings to whom we ascribe moral status.

10. Immanuel Kant, Observations on the Feeling of the Beautiful and the Sublime, trans., John T. Goldthwait (Berkeley: University of California Press, 1960), p. 81.

11. Ibid., p. 113.

12. This phrase is from page 4a of the revised version of Experience and Nature, which contains Dewey's lengthiest discussion of experience. (New York: Dover Publications, 1958).

13. Ibid., P. 2.

14. Ibid.

15. Ibid., p. 8.

16. Ibid., p. 277 ff.