

## Concepts of Free Will in Modern Psychological Science

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Psychology has conformed to the natural-science style of explanation, in which presumed underlying material- and efficient-cause determinations "account for" human behavior. As a result, the meaning of *free will* has been impossible to capture in psychology because it requires formal- and final-cause conceptualizations. There are three ways in which psychologists have tried to explain away the free-will experience in human description; i.e., as statistical unpredictability, as mediating alternatives and as guided natural selection. None of these explanations will suffice. In order to convey what is meant by free will it is necessary to view human mentation as capable of self-reflexivity through dialectical transcendence. This latter conception permits us to say that free will is the capacity to alter the grounds for the sake of which we are determined.

Although some critics charge that psychology is not a science, there can be no doubt that since its formal beginnings on academic campuses in the closing decades of the 19th century, psychology has aspired to the stature of a scientific discipline (Boring, 1950). Thanks to this aspiration, psychology has been unable to rid itself of the restrictions in causal description which began in 17th-century natural science as reductive explanation (Simon, 1970). Reductionism effectively calls for explanations solely in terms of the meanings conveyed by material- and efficient-causation — i.e., to the substances which go to make something up, or to the impetus moving events and bringing them about (Aristotle, 1952). Formal-cause meanings, which relate to the patterning in events, are viewed as secondary phenomena, brought about by the underlying material- and efficient-causes which are primary and, indeed, the very stuff of "reality." The final-cause meaning of a "that, for the sake of which" events may be teleologically moving — i.e., intended, aimed, purposively directed, etc. — is totally left out of reductionistic, natural-science accounts.

Cassirer (1950, Chp. 5) has shown how the founding fathers of psychology, Helmholtz and Wundt, helped establish a style of explanation in which all things behavioral were to be brought down to the supposed underlying forces and motions which "constitute" them. This attitude is still alive in modern psychological science, making it virtually impossible for a psychologist who would construe human behavior teleologically to function as a scientist. The experimental method is supposed to be theoretically uncommitted, but as any psychologist who

has tried to frame an explanation of behavior in terms of intentions or purposes knows, no amount of empirical data is going to convince a traditionalist colleague that such unobservable impalpabilities are to be taken seriously in the scientific context. To suggest that human beings behave "for the sake of" *reasons* is considered unwarranted anthropomorphization, even though it is the "anthrop-" which is under description! There have been numerous efforts to reconceptualize the telic side to behavior in psychology. Much of the effort in experimental psychology known as "conditioning theory" is devoted to this supposed rigorization of human description by "accounting for" teleological concepts in a non-telic fashion (Rychlak, 1977, pp. 162-176). The success of these efforts is dubious and recently the very concept of conditioning has come under fire (Brewer, 1974).

The present paper takes up what is surely the *sine qua non* of teleological theory — i.e., the concept of free will. Since people in all walks of life sense this capacity to determine their own course of behavior, not to mention the codification of free will in the standing religions and legal systems of humankind, the tough-minded psychologists of the 20th century have devised a handful of ways in which they can refer to or "account for" this pervasive human experience; i.e., free will as statistical unpredictability, as mediating alternatives, and as guided natural selection. It will be argued that none of these supposedly rigorized conceptions can serve as a proper substitute for what the common-sense understanding recognizes as free will. A fourth interpretation will then be given based on the concept of dialectical transcendence, and the recommendation made that this formulation is entirely consistent with a rigorous approach to psychological science.

### Free Will as Statistical Unpredictability

There is an interpretation of free will which stems from the fact that psychological instruments (scales, tests, etc.) can be constructed which more or less successfully *predict* the behavior of individuals in given situations. Statistically-oriented psychologists are likely to believe that what the teleologist means by free will is behavior like this which is "to a degree unpredictable" (Boneau, 1974, p. 308). These psychologists usually consider this telic view an error because the real reason for such unpredictability is the supposed technical difficulty of covering all of the determinate factors that shape any behavior, stemming from both subjects as individuals and the environmental situations in which they behave (Mischel, 1973). The factors entering into the prediction of behavior are likely to be called *variables*, presumably sampled from an extant parameter (Cronbach, 1975). Statistical psychologists are *not* likely to view this process of sampling and prediction as an instance of applied mathematical theory, with parameters and even the ubiquitous variables existing only in mathematical space. They ordinarily take such

concepts literally, believing that it is the job of psychologists continually to refine these techniques of prediction because *in principle* the behavior of individuals is 100% predictable. This Laplacian assumption has done much to turn modern psychologists into actuaries, who take more interest in the nuances of statistical prediction than they do in the nature of that which they are supposedly studying. There is the (probably apocryphal) story told of the statistical psychologist whose graduate assistant came to him one day to say that he wished to change areas of concentration and major in clinical psychology. The student found himself drawn to the study of people. At this comment, the psychologist thundered "People? People are Ns!"

Statistical psychologists are wrong when they assume that teleologists base their case for free will on the unpredictability of sampled variables. What the teleologist actually wants to know is: Can all *four* meanings of causality enter into the measured differences to be seen in the variable fluctuations? This has little to do with the question of sampling and measurement. But to the statistical psychologist, the accurate measurement leading to controlled observation and the prediction of behavior based on this measurement is what constitutes psychological science. In line with the strictures of reductionism cited above, material and efficient causality are then wound into the explanatory picture. Sample variables invariably come out as material-causes, as when people are tested for intelligence or color sensitivity (genetic substances presumably influencing performance); or, the relations variables bear one to another are seen in exclusively efficient-cause fashion. If a patterning of variables is apparent, this is taken as the result of a summation of efficient-causes bringing on the observed pattern rather than a formal cause *per se*. And *never* do we find variables tapping a pool of final causes as "parameter." The statistical psychologists take it as given that behavior is moved along *only* by those forces and processes that move everything else in inanimate nature. Their job is to *track* these processes as accurately as possible (Rychlak, 1976b).

In so doing, statistical psychologists tend to confound their *theory* of the phenomenon under study with their *method* of validation. As Burt (1955) once said of the Newtonians, they tend "to make a metaphysics out of . . . [a] method" (p. 229). We use theory here to refer to the meaningful relationship between two or more constructs, speculatively tied together or even factually proven to bear a relationship. Thus, Freud's suggestion that "oral types tend to be passive" is a theoretical formulation which may or may not stand up to proof. When we do put such assertions to test, either through rational examination (internal consistency, coherence theory of truth) or empirical demonstration (validation, correspondence theory of truth) we have moved over to the side of *method*. A method is therefore the means or manner employed to accrue evidence for a theoretical statement.

The ideal of the scientific method and its research-design procedures is

initially to control some circumstances as thoroughly as possible, hopefully leaving all but one or two factors to fluctuate, while simultaneously comparing these to subsequent circumstances which go uncontrolled. At the initial "control" side of the research procedure we can see an actual manipulation being made by the psychologist, who decides what will be studied, assembles a testing instrument or experimental procedure, and then "predicts" to what his or her theory holds will be related to these control-and-manipulated "variables." And right here is where our actuarial psychologist's confusion begins, because it so happens that the word *variable* has been used by mathematicians to describe purely *formal-cause relations* between numbers defining a function, but it has also been used to describe the factors which enter into the *efficient-cause manipulations* of the scientific method. In framing the experimental steps of scientific method, William Gilbert went beyond Aristotle's method of naturalistic observation to ask that an instrumentation of some sort, or a prescribed chemical process be used in order to ensure that what the scientist did at one end would have an objective, empirically certain tie to what was observed at the other end of this "control- and-prediction" sequence of validation (Zilsel, 1957, p. 109). Bacon emphasized the efficient-cause nature of this form of proof in vivid phraseology when he suggested that only an investigator who "interferes with nature, vexes nature, tries to make her do what he wants, not what she wants . . . begins to understand how she works and may hope to learn how to control her" (Farrington, 1949, p. 109).

A century after Gilbert's death the mathematician-philosopher, Leibniz began using the term *function* to describe the ratio of one number to another (Wightman, 1951, p. 85). Subsequently, the mathematician, Dirichlet, worked out a complete statement of this function concept, employing what he called the independent and dependent variables. An *independent variable* (IV) is one to which the mathematician assigns a value at will, and the *dependent variable* (DV) is thereby automatically given a value thanks to the functional (ratio) definition existing between mathematical conventions. The stage was now set for Gilbert's scientific experimental procedure — an efficient-cause manipulation — to be wedded to the purely formal-cause mathematical terminology of Dirichlet's variables. The late 19th century seems to have been the period in which psychology confounded these two meanings of "function," and John Stuart Mill provided much of the philosophical justification (Packe, 1954). It is generally acknowledged that psychological science as practiced in modern academia traces its roots to British philosophical influences (Boring, 1950). The net effect was that rather than viewing so-called "lawful relations" or "laws" (i.e., functional ties of the IV to the DV) as formal-cause regularities the mechanistic psychologists of our history mistakenly believed that they were *seeing* efficient-cause ties in the functional relation of an IV-DV regularity! Ernst Mach pointed out this fallacy for the physical sciences in his brilliant analysis of causation

(Bradley, 1971). His well-known admonition to view *all* causes in science as essentially correlational is a recognition of the basically formal-cause nature of the "function" construct.

Unfortunately, psychology did not take root from such advanced thinkers as Mach. As noted above, psychology was nurtured by the Newtonianism of the physicist, Helmholtz. And those psychologists who founded the experimental method in psychology, beginning with Watson, and continuing down through Weiss, Tolman, Stevens, Hull, Spence, Skinner, and many others, were *also* Newtonian in orientation. They believed that as they looked out at an experimental sequence of events, the IV efficiently caused the DV to fluctuate in measurable value. Even worse, they *as a group* equated their efficient-cause theory of a stimulus (S) causing a response (R) to occur with the IV-DV methodological sequence under observation! A classic example of this theory-method confound is to be seen in Bergmann and Spence's (1941) suggestion that: "Like every other science, psychology conceives its problem as one of establishing the interrelations within a set of variables, most characteristically between response variables on the one hand and a manifold of environmental variables on the other" (pp. 9-10). To speak of response variables is blatantly to preempt the possible theoretical account of why experimental variables might be said to bear an observed relationship. This paradigmatic preemption effectively *dictates* terms to all experimenters, who must now either see their DV as a response or risk being considered nonscientific by their peers.

Responses occur to stimuli, which *by definition* bring them about in efficient-cause fashion. Principles of contiguity and frequency supposedly account for why a given stimulus gets hooked-up or connected to a given response, but most assuredly, there is *never* any suggestion that the relations between these observed items are intentionally arrived at. To show how far this confounding process has gone in modern psychology we refer the reader to English and English (1958), a widely used dictionary of psychological terms. We are informed there that the independent variable is either a stimulus variable (efficient cause) or an organismic variable (material cause) and that: "The dependent variable for psychology is always a response" (p. 578). This is a deadly confounding of theory and method for the teleologist in psychology. Its practical result is to *repress* telic formulations, which must of necessity rely upon the meaning of formal and final causation!

How is this repression accomplished in actual practice? Imagine that a teleologically-minded psychologist were to propose a theoretical construct based on a formal-final cause type of behavioral determination. Conforming to the rules of science the teleologist then designs an experiment in which he or she puts this intentional construct to test. A scale or rating procedure might be devised whereby the researcher can assign a value to the subject's type of intention and then, using this as the IV predict to some DV performance. The teleologist might hypothesize that

people with a positive intention who are placed in negative circumstances are less likely to behave in some way than people who enter this situation with negative intentions. And let us now imagine that the empirical test (method) supports the predicted expectations (theory). What would be likely to occur if the teleologist writes up the rigorously attained experimental findings in *telic* terminology and submits this manuscript to one of the so-called better psychological journals for publication consideration?

Would the editorial reviewer for this journal follow the theoretical argument, assess the strength of the experimental design, and conclude — assuming that all was sound — that a telic feature of behavior had been validated? *Probably not!* It is almost certain that the reviewer would find the telic commentary objectionable, believing that since a prediction had been reliably made there *could have been no true self-direction* by the subjects under observation. Their behavior being on the DV side of the ledger (responses), it follows that the IV (efficiently-) caused it to take place. Hence, the reviewer would reason as follows: “There is clearly an S-R regularity in the data as the independent variable has some kind of predictable control over the observed responses.” Having now confounded theory talk with method talk the reviewer would speak to the teleologist in the following vein: “This observed difference in level of response [i.e., positive vs. negative intentions] is interesting, but why not try to find out more about the underlying antecedent conditions [efficient causes] which shaped it? It’s all right for the unsophisticated person to talk about intentions, but this is not a proper explanation for us to print in a scientific journal. You really should know better. There are some fine theories [S-R, of course] which with a little modification here and there might easily account for your findings. Why not take a look at them and adapt your thinking to them?”

What has happened here? The reviewer has slipped the teleologist’s IV-DV (efficient-cause) *methodological* findings underneath his or her S-R (efficient-cause) *theoretical* preference and seen in the former sequence “scientific” evidence for the latter! And since everything which can be said about human behavior must therefore be predictable *in principle* — just so long as we are capable of delineating the relevant variables — it follows that a claim that individuals direct their behavior intentionally, with free choice, is nothing but a plea for consideration of the *error variance*. Hence, free will must be unpredictability, an aspect of experimentation which will always be with us due to the unreliability of different aspects of research. This is how statistically-oriented psychologists reason, believing as they do that all behavior is 100% predictable, short of such unreliabilities. A construct of intentional decision-making or free choice simply cannot be entertained in light of this stance on what constitutes science.

However, the statistical psychologist is wrong in thinking that teleologists must base their concept of free will exclusively on the

unpredictability of a person's behavior. Teleologists can also view the *predictability* of behavior as due to the willful self-direction which agency makes possible in human behavior. If people do first consider alternatives "freely" before they "will" (intend) a specific course of action in choosing "this" alternative rather than "that" alternative, and if they can always re-examine their willful choice (decision, selection, affirmed position, etc.), then it surely may happen that their behavior will be less predictable than if they had not re-examined their position. The housewife who has indicated on a test survey that she prefers "Brand X" may go to the market only to notice that now "Brand Y" has a newly colored box on which is printed the claim that it has been "improved." These two additional items of experiential information may "cause" her to change her mind. But what kind of causal meaning is involved here?

The teleologist would suggest that the housewife's behavior is only unpredictable in this instance because at the time when the survey was administered we were unaware of these different *grounds* "for the sake of which" she now proceeds to buy "Brand Y" rather than "Brand X" as our survey had predicted. As a result, our scale had "sampled" the old and now discarded grounds for her still quite willful behavior. On the other hand, if the housewife had entered the store to find all things as before, she would confirm our predictions by acting on her initial (now "old") grounds, and willfully selected "Brand X." And if she could do this so could every subject "sampled" in the survey, enabling it to predict in the first place. The teleologist would thus turn the tables on the behaviorist's indeterminism argument at this point, and, rather than claiming credit only for the unpredictable portions of the statistical variance, lay claim to *all* of it.

In trying to interpret free will on the basis of unpredictability we are actually substituting the *methodological* context for the *theoretical* context. What is needed is a clear theory of what something called free will can mean psychologically or behaviorally even before we get around to testing this theory empirically (where the question of unpredictability then arises as a methodological consideration). To argue from unpredictability places the teleologist in the untenable position of having to use the *error variance* of an experiment as positive evidence of something when it can never properly fulfill this role. We first need an interpretation of free will theoretically, and *then* we can move to falsify this theory by doing what all scientists do in the methodological context — i.e., examine the central tendency of the predicted (not error) variance of our experiments. We next move to a consideration of a theory purporting to account for "free will behaviors" in a nontelic fashion (i.e., *sans* final-cause meanings).

### Free Will as Mediating Alternatives

It is common in the empirical-behavioristic traditions of academic psychology to hear free will called an *illusion* (Immergluck, 1964). Some psychologists even suggest that this illusion has utility, and that people should be allowed to go on believing in illusory free will because this belief has empirically demonstrable positive effects on their behavior (Lefcourt, 1973). The reason free will is taken as an illusion is because of the fact that in psychological experimentation it is possible to predict subject behavior even before it happens (along the lines of psychometric prediction, as discussed above). Behavioral "lawfulness" is taken as the diametric opposite of personal freedom, and it is therefore considered impossible for a free-will theory to make claims on the predicted portions of the variance in an experimental validation.

The most common theory used to "account for" free-will behavior stems from the mediational models of S-R psychology. Though it is customary to trace mediational theory to Tolman's (1967) "signified means-end-relations" (p. 136) or *cognitive map*, there are those who argue that an implicit mediation model can be seen in John Watson's writings (see Goss, 1961, p. 288), and even the latter's professor, James Rowland Angell (1907) had referred to the "mediating effects of previous experience" (p. 74) on present behavior. In point of fact, mediational conceptions can be traced back to the psychology of John Locke, a progenitor of the British empiricistic-associationistic traditions of behaviorism (see our discussion, above). But note: the cognitive map, or, as Tolman and others have since called it, the intervening variable (note the theory-method confound here), retains an exclusively efficient-cause meaning in the thinking of behaviorists.

The mediator as conceptualized is in fact "yesterday's" efficiently-caused consequent or *response*, acting today as an efficiently-causing antecedent or *stimulus*. Responses have been turned into stimuli along an efficient-cause theoretical sequence of "cause, effect, cause, effect," *ad infinitum*. Dollard and Miller (1950) appropriately coined the phrase "cue-producing response" to capture this idea of yesterday's effects working automatically today as causes without telic (final-cause) direction. Indeed, the modern cybernetic formulation of *feedback* as a portion of the output information looping back as input is the identical conception, a fact which helps explain the current popularity of cybernetic models in what is now called "cognitive" psychology (Solso, 1974). Whether mediating cue-producing responses or feedback loops, the resultant explanation of freedom in human behavior becomes the variability made possible as a result of these intermediate factors. Dollard and Miller (1950) expressed this theory of free will as follows:

Through their capacity to mediate learned drives and rewards, verbal and other cue-producing responses enable the person to respond foresightfully to remote goals.



They free him from the control of stimuli immediately present in the here and now, provide a basis for sustained interest and purpose, and are the basis for the capacity for hope and reassurance. With their removal all these capacities should be lost. (p. 219)

This is a 20th century derivation of Lockean thinking. Since John Locke is pictured as a free-willist in political writings (Horne, 1912, p. 54), having been the author of phraseology adapted to the Declaration of Independence, it seems paradoxical to picture him as the forefather of psychological mechanism. A closer look at precisely what Locke held to be the nature of *individual* (not political) freedom will help clarify the paradox. Locke (1952, p. 190) began with the assumption that there are always a number of *uneasinesses* which impel the will to action — i.e., to prefer or choose some course in life. Behaviorism was to call these *drives*. But according to Locke, as a mental action the will does not have to be carried forward immediately. It can hang-fire, so to speak, and *suspend* the execution of actions which might terminate the uneasinesses. In fact, said Locke (1952): “This seems to me the source of all liberty; in this seems to consist that which is (as I think improperly) called *free-will*” (p. 190). During this suspended course of action the human being can look over things from several angles, and judge the benefit or harm, good or evil of what it is that he or she is about to do. Things which bring pleasure are good things, and those which result in pain are bad (*Ibid.*, p. 195). We can even project this goodness or badness into the future, comparing a present satisfaction to a later one. The overweight person confronting an ice cream parlor is in this situation. Summing it up, Locke (1952) concludes: “Liberty, it is plain, consists in a power to do, or not to do; to do or forbear doing, *as we will*” (p. 193.)

Unfortunately, as Rickaby (1906, p. vij) has shown, Locke did not make clear why a mind hesitates or suspends action to consider alternatives in the first place. The teleologist would of course begin to invoke a final-cause formulation here, acknowledging that we are moved by uneasinesses but that these are framed as grounds for the sake of which behavior occurs. And, as a self-reflexive intelligence (see below, section on dialectical transcendence) the human being can always put such grounds to assessment before behaving “one way or the other.” In one of his examples Locke speaks of a man who is told how much better it is to be rich than poor, but, even so, he makes no effort to work his way out of poverty because he feels no uneasiness (motivation) to change things. Locke concludes from this that mental choice follows motivation, but it is just as easy for us to conclude the reverse. If we were willing to think of uneasiness as a premise, then simply because this man did not become uneasy hardly establishes that no choice was made. Locke is taking the view that a man, shown the “best” economic level at which to live, *must* choose this option as a rational being. But what if he does not? What if the human organism can opt for the lesser of two alternatives? Then, clearly, this man would have no uneasiness and motivation would

have followed choice.

In order to develop this line we would have to believe that the person is truly free to opt against the right and good, against the probabilities of past inputs as etched on the *tabula rasa* intellect, and to be in essence, capable of *arbitrariness* in grounding behavior. In this context, arbitrariness means to have the capacity to shift the premises for the sake of which behavior is intended "at will." However, when it comes down to the way in which experience is etched upon intellect in the Lockean *tabula-rasa* view, the mathematical nature of such "past inputs" from experience is clear (Locke, 1952, p. 369). Will is said to be capable of but one determinate action at a time, and, the course this action takes ultimately rests upon the nature of past "input" etchings. Conjecture, doubt, wavering of belief, all such seemingly freely willed deliberations are *in fact* the result of what has been placed into mind by experience much as one might place dinnerware into a cabinet (Cranston, 1957, p. 266). And to the extent that more experiential input goes to "this" side of the question than to "that" side *there shall be* no such mental wavering. Though he does not discuss this issue specifically, it seems clear that Locke's suspension of action must itself be considered to be a result of — an efficiently-caused "effect" of — past inputs. Since we have no innate reason for hanging-fire in the face of our uneasinesses, it follows that we must have been taught to do so in the past. This suspension of efficient-causation is learned, and, the decision to opt for one way or the other during the suspension is *also* learned — which means in this view, influenced entirely by the frequency of past environmental inputs.

Hence, when modern behaviorists define freedom as having to do with the "number of alternatives available" (Thoreson & Mahoney, 1974, p. 5) in current behavior they are essentially restating the Lockean *tabula rasa* view that if one's past experience has shaped one's current response repertoire according to alternative patterns *vis a vis* ongoing stimulus situations, then one is freer today than someone who has not been so favorably manipulated. A colorful example of this mediational theory was given by the physiological psychologist, Donald O. Hebb (1974), when he observed of himself:

I am a determinist. I assume that what I am and how I think are entirely the products of my heredity [material-cause determination] and my environmental history [efficient-cause determination]. I have no freedom about what I *am*. But that is not what free will is about. The question is whether my behavior is entirely controlled [efficiently caused] by present circumstances. Heredity and environment shaped me, largely while I was growing up. That shaping, including how I think about things, may incline me to act in opposition to the shaping that the *present* environment would be likely to induce: And so I may decide to be polite to others, or sit down to write this article when I'd rather not, or, on the other hand, decide to goof off when I should be working. If my past has shaped me to goof off, and I do goof off despite my secretary's urging, that's free will. But it's not indeterminism. (p. 75)

The Lockean formulation is not limited to behavioristic accounts. We

find a similar usage among the teleological psychologists of history. Consider William James's (1952) analysis of willful movement: He bases his theory on the claim that before a voluntary motion is possible in life we must first have a store of memories concerning involuntary motions. We must first move reflexively for a time following birth, and then, having recollected such involuntary movements we are in a position to exert some influence on their direction "the next" time we behave. In this discussion, James is prepared to use the metaphor of a chain which he found unacceptable in his analysis of thought as a stream (*Ibid.*, p. 155). Thus, he notes that: ". . . where the chain [of movement] is voluntary, we need to know at each movement just *where we are in it*, if we are to will intelligently what the next link shall be" (*Ibid.*, p. 770). Will is defined as the fixing of attention on some object toward which motion is to be expended in order to bring it about in behavior (*Ibid.*, p. 816). A willed movement is always preceded by an idea of itself, and a consent to let its implications come about (*Ibid.*, p. 820). The effort of attention is crucial in willful acts, relating particularly to the things which we really are capable of doing. When we lack the power to achieve some end by way of voluntary motions this is a wish (*Ibid.*, p. 815). And *free will* comes down to a more sustained fixing of attention; as James expressed it: ". . . the operation of free effort, if it existed, could only be to hold some one ideal object, or part of an object, a little longer or a little more intensely before the mind" (*Ibid.*, p. 825).

Having accepted the foundation metaphor of a chain of efficient causation, James is necessarily ensnared by the Lockean view of free will as suspension in the face of a unidirectional sequence of motion. His theory therefore suffers from the same problem of explaining how some objects can be held before the mind longer than others. We therefore conclude that this second attempt to account for free will is inadequate. It is a theoretical effort, in contrast to the methodological explanation of free will as unpredictability, but it begs the question. Mediational models merely push the issue of efficient causality back a notch in time, placing such controls over current behavior in the past. But these are hardly satisfactory accounts of what the average person means when he or she refers to free will.

### Free Will as Guided Natural Selection

The last of the three "accounting for" interpretations of free will in modern psychology stems from the writings of B. F. Skinner. It is more in the nature of a theoretical than a methodological reinterpretation of free will. Few psychologists today recall that it was the criticism of Ernst Mach on causality (refer above) which provided Skinner with the theoretical justification for re-construing the nature of a behavioral response in psychology. In his 1931 analysis of the reflex-arc concept, which he found unacceptable for psychology, Skinner (1931) not only

cites Mach directly but carefully refers to the "observed *correlation* [*italics added*] of stimulus and response" (p. 439). This usage clearly implies a formal-cause meaning, the recognition that antecedent-consequent patterns observed methodologically are *not necessarily* to be subsumed by the meanings of efficient causality in theoretical description. One might have thought that Skinner would have gone on to non-mechanical explanations of behavior (Mach called his own approach "phenomenological physics"). But this was not to be.

If a psychologist of 1930 observed a rat moving about in a learning maze, he or she usually assumed that it was being propelled by an antecedent drive state (Locke's uneasinesses), so that the responses observed were the (efficiently caused) effects of such unobserved — because internal — stimuli (based on material-cause deficiencies in the body chemistry). It was thought that without this drive occurring first there would be no responsivity. Skinner objected to this drive theory on two counts. First, it was not sufficiently empirical because the psychologist never sees the drive stimuli which supposedly push behavior along. This was a vestige of the efficient-cause mythology which Mach had taught Skinner to question. Secondly, the drive-reduction which supposedly took place following a response (as, in running the maze) is an inaccurate representation of how animals actually learn in their natural state. Animals in the wild get reinforced *only* if their responses literally create their, e.g., edible "stimuli." A bird must first peck at a branch before the lode of nutritious insects is forthcoming in the crumbling bark of the tree. Who is to say what triggered the pecking reflex? Maybe reflexes are just "there" and require no triggering. All we can observe for certain is that when the first few pecks do indeed lead to insects an increase in the rate of pecking follows. If we were to graph the number of pecks per fixed unit of time we would see our graph become positively accelerated.

Skinner was to call such pecking responses *operants* because rather than being operated on by drives they "did the operating" on the environment to produce *reinforcers* (e.g., insects). Rather than being elicited by an antecedent efficient cause, Skinner contended that the operant responses were emitted. To emit is to send forth, whereas an elicitation is drawn forth by some other force than the act itself. Skinner had effectively reversed the order of the S-R formulation over time, calling the pattern of stimuli acting as reinforcers for operant behavior (e.g., the shape of edible insects) the contingent circumstance, or the *contingencies* of reinforcement. The teleologist is interested in this choice of words. It was the free-willist theologian, John Duns Scotus, who introduced the concept of contingency by which he meant an act that was the result of a precedent decision of the will. As such, it was *not* considered a necessary action because the will could have opted for an alternative line of efficient causation. Put another way, contingent causes were final causes, setting the course of causality over time but potentially always capable of having gone another "way" (i.e., selected an alter-

native line of efficient causation).

Even though he used the language of contingent causation Skinner did *not* accept the telic intimations which went along with it. In *unMachian* fashion, he retained a form of reflexology by at first suggesting that when a bird does get its insect reinforcer this releases a fixed but unknown number of pecking responses, which are emitted consecutively much as if a cover had been moved back slightly from the top of a large pot of unnumbered contents which then proceed to slip out in linear order. This *reflex reserve* as he called it was to be emptied according to the speed of an animal's responding. Skinner (1938, pp. 85-90) showed in his researches that if a rat depressed a lever only once and received a bit of food as an immediate reinforcer it would go on to depress the lever for up to 50 times without another contingent reinforcement taking place. The rat might take only an hour to get all 50 responses out, or it might take several hours, but once the contents of the reflex reserve were emptied "that was it" unless, of course, another reinforcement was forthcoming. And, indeed, offering an occasional bit of food according to some ratio of lever pressings could keep the animal going indefinitely.

This fixed ratio of reinforcement was called a *schedule*, and in scheduling behavior this way Skinner believed that he was shaping it (a term used earlier by Watson). And right here is where we find Skinner taking leave of his Machian insight, for he as his fellow behaviorists began to confound the IV-DV sequence of experimentation with reality. He saw the experimental paradigm as a suitable analogue for life, and years later even drew parallels between socio-cultural forces and the manipulations conducted by an experimenter in his or her research design (Skinner, 1971). He even identified with the language of mediation by observing: "As a determinist, I must assume that the organism is simply mediating the relationships between the forces acting upon it [efficient causation] and its own output, and these are the kinds of relationships I'm anxious to formulate" (Evans, 1968, p. 23). The net effect is that Skinner could see no room for freedom in behavior, since without question, his researchers have shown up and down the animal hierarchy a capacity for the control of behavior. They have indeed, but how are the observed IV-DV regularities to be explained? Is the control of a human being's behavior through contingencies entirely blind (nontelic), or, is it as Duns Scotus would have it, occasionally the result of self-generated contingent examinations? Skinner (1971) has never wavered on this point: The human's operant response "grabs" at the environment, but the environment does the selecting of what will or will not be captured by this grabbing (see esp. p. 16).

When Skinner began theorizing about language as a series of verbal operants he ran into some explanatory problems (he had discarded the "reflex reserve" construct by this time). Language permits us to assess the intentions of an actor even before the line of behavior is put into effect. The person says "I want to eat ice cream so I am going to buy a

cone and enjoy it" and then *does* so. If the words are emitted operants as well as the actions of buying and eating the cone (Skinner says they are), then it is always possible that the verbal sequence may permit alternatives, true contingencies such as when the person says "Maybe I will and maybe I won't go to the party tonight." Could such tentative projections, acting as verbal operants, signify a contingent course of action in the original meaning of Duns Scotus? Mach would surely have entertained the possibility, but Skinner (1971), who often presents himself as more scientific-minded than his critics (see p. 22), would refuse to concede this possibility. Telic theory is outmoded and he is a modernist: "Operant behavior, as I see it, is simply a study of what used to be dealt with by the concept of purpose. The purpose of an act is the consequences it is going to have" (Evans, 1968, p. 19).

As Skinner (1971) views things, science has succeeded in identifying the "real" cause of behavioral patterns, and this is *not* efficient causation: "What is no longer common in sophisticated scientific writing is the push-pull causality of the nineteenth-century science" (pp. 217-218). What then is the sophisticated scientist employing in causal description? Skinner now begins to draw a parallel between operant conditioning and Darwinian natural selection, as follows: "The environment not only prods or lashes, it *selects*. Its role is similar to that in natural selection, though on a very different time scale, and it was overlooked for the same reason" (*Ibid.*, p. 18). When animals in nature evolved a certain type of hide, or, a particular claw structure it was the physical environment which contingently rewarded them with survival assuming this change proved more adaptive than the hides and claws which had existed to that point in time. And, as is sometimes said of the dinosaurs, when the environment was no longer the "right one" for certain bodily structures, contingent reinforcements in the form of survival were not forthcoming. By 1974, when he published *About Behaviorism*, Skinner had completely identified Darwin's natural selection with operant conditioning as follows:

There are certain remarkable similarities between contingencies of survival and contingencies of reinforcement. . . . Both account for purpose by moving it after the fact [on the time dimension], and both are relevant to the question of creative design. When we have reviewed the contingencies which generate new forms of behavior in the individual, we shall be in a better position to evaluate those which generate innate behavior in the species. (Skinner, 1974, p. 40)

According to Howard E. Gruber (1974), an expert on Darwin's works, the Father of Natural Selection theory "was not especially interested in drawing a direct analogy between the evolution of species and individual psychological development" (p. 226). Furthermore, Darwin's interactionist theory gave equal weight to organism and environment in the evolutionary process, so that the organism was often "resistant to environmental pressures, and by the same token not always perfectly

adapted . . ." (*Ibid.*, p. 195). Because Skinner's equation of operant conditioning to natural selection overweighs the role of the environment we have every right to consider it a false analogy to the meaning intended by Darwinian interactionism. Skinner (1974, p. 36) goes on to suggest that Darwin had "discovered" a special form of causality in nature when he conceptualized natural selection. Actually, Darwin, who had considered the ministry at one point in his life, fully appreciated that natural selection as a conception relies on material- and efficient-cause meanings which move events in the direction of what proves viable not by a God's intention but by serendipity and survival of the fittest through blind fortune. Even so, mused Darwin (1952), there are some paradoxes in this process:

We civilised men . . . do our utmost to check the process of elimination [i.e., natural selection]; we build asylums for the imbecile, the maimed, and the sick; we institute poor-laws, and our medical men exert their utmost skill to save the life of every one to the last moment. There is reason to believe that vaccination has preserved thousands, who from a weak constitution would formerly have succumbed to small-pox. Thus the weak members of civilised societies propagate their kind. No one who has attended to the breeding of domestic animals will doubt that this must be highly injurious to the race of man. (p. 323)

Darwin obviously appreciated that something called a *value* can enter into the selective processes of nature at the human level to negate the "survival of the fittest" principle which might have been in operation to that point in historical time. We do not find such Darwinian quotations in Skinner's writings. A value for Skinner (1971) is strictly due to the positive (good value) or negative (bad value) outcome of reinforcing contingencies (see p. 103 and p. 105). This instrumental theory of value is incapable of capturing the more intrinsic value questions which Darwin was capable of recognizing. How was it possible for mankind to "select" these self-evident principles on the worth of life which seem to have no direct tie to the process of species survival? What was the "contingently reinforcing circumstance" in this selective process?

Of course, the fact that civilizations have turned back on natural selection to achieve their valued ends comes as no surprise to Skinner. Since the appearance of his utopian novel, *Walden Two* (Skinner, 1948), he has become a leading advocate of the design of cultures. As he now contends that the causal vehicle in cultural management is an adaptation of the biological principle of evolutionary selection, we have chosen to call this Skinnerian theoretical explanation "guided natural selection." The practical outcome of such cultural design would be comparable to the mediation thesis of increasing alternatives within which people might be permitted to behave. As Skinner (1971) expressed it: ". . . a culture which made people as much alike as possible might slip into a standard pattern from which there would be no escape. That would be a bad design. . . . The only hope is *planned* diversification, in which the impor-

tance of variety is recognized" (p. 162).

According to Skinner (1971, p. 37), people who "feel free" are merely experiencing a feeling about the increased likelihood that a valued contingency of reinforcement will be forthcoming following some behavior they are shaped to perform. The value as well as the line of behavior has been shaped by past operant conditioning. It follows that a culture which maximizes these "valued" alternatives will be one which has the greatest likelihood of being called a free society. That is, the illusion of free choice is maximized, but the "scientific" truth of the matter is that such behavior is *determined*, and when Skinner uses this term he means — despite his disclaimers concerning the push-pull explanation — something akin to an impetus of efficient causation.

That is, we can speak of a material-cause determination as when a statue is made of marble rather than wood. We can speak of formal-cause determination as in the (sound or unsound) ordering of premises in syllogistic reasoning leading to (proper or improper) conclusions. We can also speak of the willful determination of an intentional agent out to gain *contingently* preferred ends. But Skinner means none of these things. He means an "operant response-to-contingent reinforcer" determination of what is clearly an efficient-cause nature (though we have tried to show in other contexts that Skinner has an unnamed teleology at play in his theory; see Rychlak, 1977, pp. 255-270). Skinner has reversed the S-R ordering of his theory to an R—S succession (operant response *to* contingent stimuli), but the blind sequencing of antecedent-to-consequent is still the determination on which he bases his explanation.

Critics have noted the seeming contradiction between Skinner's theory of personal behavior and the fact that he believes cultural planning is possible. How can a nontelic organism plan for the future? Skinner answers that such planning is based upon scientifically established findings, and that since the aim will be to avoid as much as possible all forms of control through aversive stimulation and punishment there should be no objections. For those who want to know "who controls the controllers?," Skinner answers in terms of counter-control measures. There is a joke retold by every class of undergraduate students who take psychology that has one rat say to a fellow rat: "Look, I've got Professor Skinner conditioned. Every fifth time I press this lever he gives me a food pellet in that dispenser over there." Joking aside, says Skinner (1971, pp. 168-169), the fact remains that the organism under control *does* have a counter-controlling influence on the controller. Hence, in a well-designed culture it is Skinner's contention that such reciprocal controls would *also* be instituted. Here again, the counter-controls shaped into people would be felt by them as personal freedom — an illusion, to be sure, but then so are their current feelings of free will illusory.

A teleologist would find this Skinnerian explanation of free will unacceptable, not because it requires a controller over people, but because of the interpretation given to how such control is achieved. People are in-



deed controlled daily by cultural controllers, whom they influence in turn so that a reciprocity exists between the citizen and his or her elected officials, the police, and so on. But is this solely efficient-cause control and manipulation, or, can we discern some contingent manipulations going on in the original sense used by Duns Scotus? The teleologist would suggest that the reason why a "good citizen" obeys the law is because he or she freely affirms the premise that it is "right and proper to obey the law" and *then* in willfully behaving "for the sake of" this reason is open to social control by the officers of the law. Other citizens who violate the law can be found to have a different assumption "for the sake of which" they are seen to behave. This makes social control due to final-cause determinism rather than efficient-cause determinism. Good citizens are not manipulated; they conform to what is expected of them.

This premising or predicating feature of human behavior is impossible to capture on the behavioristic model, even though the mounting facts of experimental evidence this past decade or so have been in line with such a view of the reinforcement process. We refer here to the question of a subject's *awareness* in the conditioning paradigm (Brewer, 1974). It would not be unreasonable to conclude at this point in psychology's history that the vast preponderance of experiments on adult humans which has examined this issue reveals that conditioning is in reality more a question of compliance, cooperation, and conformity to what is *knowingly* expected than it is a manipulation of blindly moving behavior shaped into habitual patterns on strictly mechanical grounds (see, e.g., Page, 1972). Behaviorism has thus far publicized the efficient causes of behavior and soft-pedaled the telic overtones of the conditioning procedure.

In sum, the teleologist would judge all behavioristic efforts to account for free will as unsatisfactory. These theoretical descriptions do not capture free will as a psychological process so much as they describe the subtleties of control which provide us with the illusion of free will. In a sense, freedom comes out as covert control. Although political freedom may properly be conceived in terms of alternatives available, to say that a prisoner in jail is psychologically less free in willed behavior than a person outside of jail is like saying that a person who can afford the best steaks has a different digestive process than a person who must exist on cornmeal. Ordinarily, we think of our free will as under the constraint of external factors, so that though we may will it we are unable to walk through walls. Wealthy people have more alternatives to consider in deciding what they can or cannot do, but this does not change their basic psychological processes. The behavioristic interpretation of freedom also holds for animals. Is an animal with more mediating cues trained into it *psychologically* freer than an animal which has not yet had the benefit of such training? Behaviorists would tend to answer "yes," but this is because, as we have seen, they equate free will with the multiplying of alternatives — leading at times to unpredictability — rather than to the *reduction* of alternatives in behavior.

And yet, if we were to live according to Duns Scotus' interpretation of efficient causation we would constantly be *reducing* the possible alternatives in behavior open to us, *rejecting* those which had contingent circumstances we deemed beforehand to be immoral or harmful. Overt options may be minimized by the moral person, but psychologically the level of free will remains the same as in all people. Thus, it has been said that a saintly individual is in time *less* free to behave than even a prisoner, who is not ordinarily as ready to contemplate the "that, for the sake of which" behavior may be intentionally carried out. The more the saint defines as immoral, the fewer behavioral alternatives open to him or her. It is this *delimiting* side of free will — literally, the "will" side of this phrase — which the behavioristic theoretical account will never quite capture, because it demands that we frame things in a final-cause fashion. We now turn to a theoretical view of free will which can encompass both the increase and delimitation of alternatives in human behavior.

### Free Will as Dialectical Transcendence

The challenge for psychology is more to capture what the average person means by free will than to try to "account for" this ubiquitous psychological experience in a nontelic fashion. We find this interpretation suggested in the writings of Fromm (1941, 1956), who employs a conception of the dialectic as underwriting a form of paradoxical logic in human behavior which can give the person a certain freedom from complete dominion by incoming stimulations from the environment. Fromm's writings are not generally pitched to the academic community, and he does not conduct empirical research to support his theoretical claims. As a result, he has failed to make much impact on scientific psychology. Of course, it is easy to speak of choice, commitment, and even transcendence in the nontechnical language of everyday expression. But, as we have seen, in the academic translation these humanizing activities all become "responses," which means they are efficiently-caused "effects" and *at this point* in the transition to so-called "scientific" terminology all chances for a telic account of behavior disappear.

It is our contention that a free-will conception is impossible to frame without a preliminary change in the way that behavior is described as occurring. Beginning in a more Kantian than Lockean vein, the writer has argued that human behavior is psychologically *predicated* rather than psychologically *mediated*, and that mentation proceeds in a *pro forma* rather than *tabula rasa* fashion. The human mind is said to "work" on the basis of affirming premises rather than inputting information. In order to capture this feature of human understanding the term *telosponse* has been coined. Though it compounds Greek and Latin roots, as a succinctly framed parallel to "response" we feel it can serve a useful theoretical purpose. Thus, a telosponse involves "*taking on*

(predicating, premising) a meaningful item (e.g., image, language term, judgmental comparison, etc.) relating to a referent acting as a purpose for the sake of which behavior is intended" (Rychlak, 1977, p. 508). Rather than describe leaving a room in behavioristic terms as seeing (inputting) a door "stimulus" and then "responding" (outputting) by walking through it based upon a reinforcement history (mediating) of successful exits, we would say that the person takes on the predicated meaning "door" as a referent and then behaves for the sake of this meaningful purpose (doors are for leaving rooms, among other things) by intending his or her way out of the room. Human beings do not "learn" to telospond. They are not shaped into taking on premises for the sake of which they behave. This is an aspect of their very natures, a *final-cause* side to their behavior.

The formal position we are now considering has been termed *logical learning theory* (Rychlak, 1977, Chp. 8). However, in speaking of logic we mean *both* what Aristotle (1952, p. 143) called demonstrative and dialectical reasoning in the pursuit of knowledge. Although it can be shown that dialectic has played a role in thought since the earliest known writings of both Eastern and Western cultures (*Ibid.*, Chp. 2), psychology has matured in the one-sided traditions of natural science which have continually denigrated dialectical reasoning. This attack on the use of dialectical formulations has some merit in the methodological context but it has been harmful in the context of theory. Thus, "reasoning by opposites" has not been incorporated into the human image that modern psychology now holds up as "factually proven" knowledge. The *sole* way in which human reasoning is pictured today is in terms of a Lockean model of mind (1952, p. 113), whereby simple ideas total up to complex ideas in quasi-mathematical fashion after they have been taken in as demonstratively "primary and true" building blocks. What is "in" the mental cabinet has been placed there. Meanings are unipolar or atomic entities. The Ten Commandments fed into an intellect of this nature would have but 10 alternatives etched upon it in unidirectional fashion. The Ten Commandments fed into a dialectically reasoning human mind must necessarily "input" *at least* 20 alternatives (see Rychlak, 1976a, for a survey of telic psychology based on the dialectical metaconstruct).

Control of human behavior undoubtedly occurs in a direct, efficiently-caused fashion at times. It would be foolish to deny that, e.g., biological processes can function totally without a contribution from mind. Indeed, physical states known as emotions might be triggered in this fashion, although as noted above, the conditioning of these emotions to a given stimulus requires awareness on the part of the individual. This finding on awareness in conditioning is difficult for efficient-cause psychological theory to subsume. To be aware is more akin to affirming a premise which accurately organizes experience into usable meanings (i.e., provide the person with understanding). This is how logical learning theory inter-

prets the findings on awareness. Extrapolating from this affirmation process, we can suggest that human beings are *not* directly controlled by "the environment," current or historical, but rather by their predication (encompassing a premise) of that environment. This has been the classical argument of the phenomenologists and gestaltists in psychology. Since gestalt psychology took no cognizance of the dialectic in reason, it could not really explain how the individual is capable of transcending the premises (phenomenal fields, figure-ground organizations of the proximal stimulus, etc.) which frame-in cognitive understanding.

Had the existentialistic psychologists followed Kierkegaard more closely, utilizing his "subjective" interpretation of the dialectic to explain how an individual might transcend life premises in reflexive fashion, we could have come to a clear understanding of free will in psychology by now. May (1977), who is a leading existential psychologist and a teleologist, defines free will in what is still a Lockean "hang-fire" sense, as follows: "*I define freedom as the capacity to pause in the face of various stimuli, and then to throw one's weight toward this response rather than that one*" (p. 7). By accepting the efficient-cause terminology of stimulus and response May as James before him (see above) is left with the problem of saying how the person can pause in the first place. There is no theoretical term here to describe how such pausing takes place, and if we limit ourselves to the meaning of efficient causation there *never will be*. The pause will necessarily end up as just another efficiently-caused "effect" as all responses are.

In order to have a free-will conception we must accept the final-cause meaning as descriptively sufficient unto itself in the explanation of behavior. We might justifiably *combine* it with the language of efficient causation, but we need never *reduce* it to this language. A telosponse is *not* a more complex form of response! A telosponding individual is constantly taking positions on life, coming at experience with an affirmation that — deep down — he or she knows full well *could be otherwise* (even when independent "facts" might convince an observer they could not possibly be otherwise). If meanings are sometimes dialectically bipolar then knowing that we are "here" implies in that very awareness that we could, might, ought to, with luck, miraculously, etc., be "there." *Pauses in behavior arise because of this cognizance*. We ordinarily affirm without contemplation but it is always possible as behavior unfolds to consider the alternatives which never completely leave our dialectical reasoning capacities.

In the researches on brain stimulation conducted by Penfield (1975) there are some marvelous examples of how the individual seems always to know that a line of thought or an act of behavior could be otherwise than what it is at the ongoing moment (see esp. p. 76). It is this dialectical capacity to see the "is not" in the "is" which both affords the human being an opportunity to rearrange the external environment as well as demands that he or she always "take a position on" (affirm) what it can

possibly mean in the first place. Mentation is never simply a cybernetic, information-processing flow of linear cause-to-effect. The ordering into meaningfulness which occurs in mind is never solely arranged in the environment as a pre-ordered reality. The individual always brings a selective "that for the sake of which" contribution to the orders (logos) which enter into his or her behavior. The dialectical construct helps us to understand how this independent ordering can take place. It occurs through oppositionality.

There is a rich history of theoretical formulations dating back to at least St. Bonaventura in which this capacity for intelligence to turn back on the given and discern the implied through oppositional meaning-extension has been highlighted (Rychlak, 1976a, Chp. 1). Though Kant (1952) did not use his concept of the *transcendental dialectic* to explain free will, there is every justification for the modern teleologist to use this style of explanation to claim that human beings have a self-reflexive capacity to turn back on what they now see, understand, presume to be the case, and so on, to name alternatives born of such oppositionality that do not now exist but which might "possibly" come about in the future. In the psychoanalytical tradition, Jung (1961, p. 337) was most sensitive to the fundamentally dialectical nature of human reason and understanding. As dialectically reasoning organisms we are ever caught up in the alternative possibility by way of the opposite implications of the meanings we understand, leading at times to doubts and unresolvable contradictions but at other times to a new level of understanding of that which we both know and do not know.

Coming down to the central point of our closing section, we now suggest that what is popularly called free will in human affairs is merely the recognition that mentation is telosponsive. We must as human beings affirm ("will") a meaning (containing a purpose) *for the sake of which* we then intentionally behave. Some psychologists insist upon calling this latter a *reason* rather than a cause, but the classical terminology here is clearly finally causal (see Buss, 1978, p. 1312). And *free will*, or psychological freedom becomes the *capacity which an individual has to transcend and thereby alter the grounds (meaningful premise, affirmation, etc.) for the sake of which he or she is determined. If* human beings reason dialectically, *then* they will never be totally under the control of unidirectional (demonstrative) inputs from the environment. They will be capable of dialectically transcending the meanings of such inputs, in self-reflexive fashion, which is why they can always sense an alternative leading to occasional suspensions of the affirmation process so that a choice can be made (Locke), or hold an item in attention as an alternative possibility (James), or pause between the stimulus and response (May). Though we are usually thrust into an awareness of our capacity to choose in the face of the more vexing problems of life — where we make those "decisions, decisions" that nag at us — the fundamentally telic (teleosponsive) nature of mentation can also be discerned in mundane

activities, like walking through doorways, if we but analyze them properly.

The other side of the coin is that, *needing* to predicate meaningfully in telosponsivity, the human being is vulnerable to those influences known as suggestibility, conformity, credulousness, and gullibility. It is anxiety-provoking to confront life without a meaning-endowing premise. Realizing that things could always be otherwise (uncertainty) prompts the human being to affirm "the" way to conceptualize hence understand experience — variously framed as the "right" (including "our") way, the "logical" way, the "scientific" way, the "revealed" (by a deity) way, and so forth. There is surely control going on continually in human relations, as individuals maneuver for advantage at all levels of inter-personal contact. But, as noted above, this is a *telic* (final-cause) determination, not to be subsumed exclusively by the meanings of material-and/or efficient-cause determination. The effective way to control others is to attract them to *our* premises, which means they affirm them for themselves! Social norms work this way, providing people with a sense of identity in mutual respect and dignity. To believe that freedom and determinism are incompatible conceptions is totally erroneous. Speaking for telic determinism, we can observe that before affirmation of a premise we are on the side of psychological freedom in telosponsivity, and after affirmation we are on the side of determination. This is why it is true that those individuals who opt on moral grounds to dismiss certain alternatives do in one sense become more "determined" than individuals who never delimit their options in life. Hence, by conceptualizing the human being dialectically we are able to see free will as leading to greater freedom for the individual (more alternatives), but also to a self-imposed delimitation of behavior once a course has been settled on.

Since there is nothing in current psychological experimental results which seriously contradicts this theoretical conceptualization of human behavior, there should be no embarrassment for those psychologists who opt to think of their science in these terms. Teleologists need no longer stand by and permit those in our profession with 17th-century scientific attitudes to dictate how we are to "account for" the human image, particularly when their current efforts to ape cybernetic lingo are viewed by colleagues in related sciences as amusingly sophomoric (Weizenbaum, 1976). The time seems propitious for teleologists to summon confidence, declare our theoretical (*not* methodological) independence in the family of sciences, and unabashedly to "anthropomorphize the anthrop!"

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