Social Constructionism, Postmodernism, and the Computer Model: Searching for Human Agency in the Right Places

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It is not uncommon today to find the claim made that the computer's capacity to adjust its course of action based on negative feedback satisfactorily explains human agency or free will. Conversely, postmodernism and social constructionism are said to be theories of behavior in which a language system locks people into a cultural determination that denies them agency. The author argues that precisely the reverse is true: computers cannot account for true agency whereas both postmodernism and an important wing of social constructionism do have certain loopholes enabling agential explanations to be developed. The key here is the employment of oppositionality in the theories under analysis. The ability to freely select the grounds for the sake of which one is determined requires an oppositional cast to human cognition and behavior. The author's Logical Learning Theory is offered as an example of theorizing that is amenable to genuine human agency thanks to its central reliance on oppositionality.

Human agency (teleology, free will, etc.) has been a problem nagging the social sciences since their inception. Are people capable of such self-determination and personal choice, and if so how does this behavior come about? As we move into the twenty-first century there are developments in theorizing that purport to answer the question of agency, one way or another. In this paper I would like to take up these developments and show how they are — for a very specific reason — taking positions in direct contradiction to the view that they should be taking on the nature of human agency.

The Computer Model

The first development is the so-called "cognitive revolution" that psychology has been experiencing over the last third of the twentieth century. This

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revolution has been fueled by the computer or information-processing model, which merged perfectly with earlier conditioning theories employing various stimulus–response models. The cognitive model in modern psychology draws heavily on British philosophy. It frames people as mechanisms, unidirectionally shaped by biological or environmental determinants. The kind of cognition presumed here is what Aristotle (1952, p. 143) called *demonstrative reasoning*. The person reasoning demonstratively takes the assumptive premises on which his or her thinking is based as "primary and true," meaning these beliefs are certain and not open to question or reinterpretation. Aristotle held that a person also has the capacity to reason *dialectically*, so that whatever meaning is assumed in thought can be challenged, negated, rejected, and otherwise turned into its opposite implication.

Demonstrative reasoning is based on the widely cited principle of contradiction (sometimes termed noncontradiction), which states that "A is not non–A." The two items — "A" and "non–A" — are viewed as related appositionally (i.e., side by side) rather than as bearing an intrinsic oppositional tie of meaning such as in the case of "left–right" or "true–false" where one end of the meaningful relation implies or helps to define the other. The law of contradiction focuses on a singularity of identity, so that when we speak of the meaning of "A" it stands entirely apart from the meaning of what it is not (i.e., "non–A").

We know that the either–or, binary logic of computer processing draws from Boolean algebra (Crevier, 1993, pp. 15–18; Gardner, 1985, p. 143). George Boole (1815–1864) considered the law of contradiction to be a *"fundamental law of thought,"* and he framed his algebraic analysis entirely in terms of demonstrative reasoning (Boole, 1958, p. 49; italics in original). It is therefore clear that the binary logic of artificial intelligence has turned this Boolean analysis into the essence of computer thinking. Thus, the computer's left hand (A) never "knows" what its right hand (non–A) is doing, and vice versa. There is never the tie of opposite implication to bond these extremes together meaningfully, as when the meaning of "left" intrinsically relies on the contrasting meaning of "right." To understand one end of this oppositional relation is to understand the other.

The belief that demonstrative computer processing can "account for" human agency stems from a classic paper by Rosenblueth, Wiener, and Bigelow (1943) in which it was argued that the control afforded by negative feedback is what agential concepts like choice, decision, intention, purpose, and so on, are getting at. Negative feedback is a calculation of the margin of error between the goal targeted by a robotic machine (like a spacecraft) and the current location of this machine. For example, if a spacecraft is targeted to a certain location, it will continually monitor its position relative to this target from which it can bounce off signals. As the spacecraft strays off course

this negative feedback is recorded and adjustments are made in its rocket firings to correct its course. As it does so, positive feedback can also be employed to signal that the adjustments called for are being made in flight. Using this mechanical metaphor, Rosenblueth et al. conclude that: "Teleological behavior thus becomes synonymous with behavior controlled by negative feedback" (p. 24).

In this formulation computers do not first "think up" what they intend doing and then purposely behave in a way to fulfill this intention. Feedback is some of the output returning as input, so that when the machine has received either positive or negative feedback it is "being told" what it is now doing or just has done! Its intentions not only do not matter, they do not exist. To enlarge on this issue, and relying additionally on an anthropomorphic example to make my point, a person *qua* robot opening the refrigerator door would be given the succeeding positive feedback signals: "You have just opened the refrigerator door. You are looking for something to eat. You have taken a cold chicken leg," and so on, as the demonstratively driven behavior unfolded. If the feedback were "You have opened the wrong door" or "You want the orange juice carton, not the milk carton" a negative feedback would be taking place. But who can find free will in such statements, where unintended behaviors are described as they occur?

Human agency is anticipatory, based on intentions that have indeed been "thought up," and sometimes they prove to be excessive and unrealistic. People work for amorphous goals they cannot precisely name or even describe. People even project goals they know are impossible to achieve, such as self-perfection. But they drive themselves in the direction suggested, accepting what gains they can as worthwhile or congratulating themselves for giving it a "good try" when total failure results. Machines require a literal "something" to target. Lose the target and you lose the teleology of the act. I see no real basis for belief in a free will controlled by negative feedback. A serious problem here is the mechanistic, engineering type of theorizing used by people like Rosenbleuth et al. They are trying to capture a human experience that is immediately known by all of us when we consider it introspectively but which makes little sense when cast in extraspective terms. Free will is a first- and not a third-person concept. It is deeply tied to other introspective concepts like self-reflexivity and transcendence, which help explain how an agential organism takes hold of its personal life and sets a course of action that is first decided upon and then put into effect — or, rejected in due course as the case may be.

The reason that computers are unable to transcend and engage their concepts in a self-reflexive examination is because they lack the capacity to "reason" dialectically. As noted above, all people have the capacity to reason in either a demonstrative or a dialectical fashion, frequently going back and

forth from one to the other. When we humans reason dialectically, we put questions to things and opt for alternatives based on opinion and possibility rather than the certainty that a demonstrative strategy presumptively demands (Aristotle, 1952, p. 143). Rather than the law of contradiction, the person relying heavily on dialectical reasoning proceeds on the rule of "one and many" or "many in one," which always allows for a choice among alternative possibilities. We see this sort of reasoning in the Socratic dialogues (Plato, 1952, p. 612), where Socrates is not concerned about which side of an issue he defends for in his theory of knowledge everything is eventually related to the "one" by way of "many" intrinsic *opposites*. Socrates will take either side of an argument because he believes that such oppositionality in meanings will help him find the truth through confronting and then discarding falsehoods.

The emphasis on *oppositionality* in Graecian philosophy is striking, and can be traced back to the oft-cited "first" philosopher, Pythagoras, who argued that "[all] things are compounded of opposite qualities" and consequently nothing in existence "is simple and unmixed" (Untersteiner, 1954, pp. 19–26). In a true sense, dialectical and demonstrative reasoning are themselves opposite formulations of the thought process. So, if our anthropomorphized computer were capable of reasoning dialectically there would indeed be a meaningful tie between A and non–A. Such a machine's left hand would always have some inkling of what its right hand is doing! The demonstratively binary aspect of the process would be compromised because the machine could infer from one meaning (A) to the other (non–A), or vice versa, and thereby derive an alternative course of action that was not laid out in the program. The person's action would not be mediated by the program, but rather "chosen" to conform to the program's scenario. Now we are speaking of true human agency, where there is always the option to conform or not!

With the rise of modern science in the seventeenth century, the emphasis was to be placed totally on demonstrative reasoning, as epitomized in Lockean philosophy and Newtonianism. When modern academic psychology came on the scene at the close of the nineteenth century, there was a willingness to continue formulating human behavior in this demonstrative fashion. The founding of behaviorism by John Watson, and the subsequent learning theories of E.C. Tolman, Clark Hull, and B.F. Skinner all accepted what was eventually translated into computer modeling — that is, an image of the human being as totally demonstrative in cognitive processing. There is no oppositionality in these approaches, and hence no capacity for the behaving organism to turn back on itself and affirm an alternative that was not brought into the sequence of behavior from without to influence things taking place within. Classical learning models had mediating sequences of the S–0–R variety and operant conditioning relied on an unintended emitted

response shaped into some action by serendipitous environmental reinforcers. Despite the so-called "cognitive revolution" of recent decades, psychology has merely substituted inputs for stimuli and outputs for responses with mediation handled by programming to round out a completely demonstrative image of human mentation.

I conclude that, thanks to its lack of dialectical processing, there is no possibility for human agency in the computer model.

Social Constructionism

Our second major development in theorizing about human agency is *social constructionism* (or, constructivism). Unfortunately, the concept of a "construct" is used in two ways, leading to confusion in theoretical discussions. One group interprets the verb "construct" as putting parts together as when we build something. We assemble brick upon brick to build or construct a wall, and can describe its progress extraspectively (i.e., in third-person terms). We find someone like Kenneth Gergen (1989) using this meaning. The other usage interprets the verb "construct" as mentally forming something, including doing such things as framing, interpreting, deducing, and analyzing. To construe on this view is to introspectively lend meaning to events from a personal slant, based on certain assumptions (a first-person account). This meaning was employed by George Kelly (1955) in his Psychology of Personal Constructs.

The essence of social constructionism is that human behavior and beliefs are shaped by society and are therefore beyond the power of the individual to change things. For example, Gergen (1989) asks that "we avoid reducing the social world to the psychological" (p. 479). He therefore believes that "what we take to be knowledgeable propositions about the world are essentially the outcome of social relatedness. What we take to be knowledgeable bearing propositions are not achievements of the individual mind, but social achievements" (p. 472). Harré (1984) speaks in the same vein: "We should begin with the assumption that the primary location (in both a temporal and logical sense) of psychological processes is collective rather than individual" (pp. 4–5). Sampson (1993) next points to class distinctions in societies as follows: "every [social] construction has a dominant group — the constructors — and its others, those who are constructed" (p. 4). The constructors are the "haves" and the constructed are the "have nots."

The problem with such collective theorizing is that it suggests or requires the functioning of a group mind to make sense. Do Harré and Gergen believe that there is some supraindividual leviathan framing group norms to direct behavioral patterns among the populace? Unfortunately, they do not say except to suggest that the language system of the society is somehow

involved, particularly as manifested in dialogues. Gergen (1991) opines that language is a form of interpersonal relatedness in which the individual is collectively immersed and therefore continually influenced by what is conveyed verbally (p. 157). The person's actions merely reflect linguistic influences flowing unidirectionally through his or her associative processes based on past inputs. This formulation pictures the individual as unable personally to dialectically reverse such linguistic meanings directing behavior. Any such reversals have to be input as a separate line of demonstrative influence. Oppositionality in thought goes unnoticed as a principle of explanation in this wing of social constructionism, hence a genuine theory of agency cannot be framed.

Fortunately, there is an alternative wing in this school of thought. Thus, Peter L. Berger (1963), who is often recognized as one of the "fathers" of social constructionism, offers a more individualized account of how social constructions actually come about. Berger (with Luckmann, 1966) defined social construction as follows: "all social phenomena are *constructions* produced historically through human activity" (p. 106; italics in original). There is an ongoing social content of belief available to the person, who in turn modifies and contributes to such belief so that it changes meaning over time. The initiating source of this change is invariably the individual, for at no point is there a group mind consciously framing events. The individual human being frames an idea and then announces it for consideration by others. If it is seen as meaningfully relevant this idea is then *objectified* and *internalized* by others in the collective (Berger and Luckmann, 1966, p. 106). An example given by Berger and Luckmann describes how a religious genius might concoct a "new mythology" that would become part of the cultural lore (objectified) and then be used as grounds for social action by succeeding generations (internalized; p. 83).

But people are not to be pictured as blindly internalizing social influences without the capacity to negate, reject, or revise them. Thus, Berger (1963) emphasizes that: "rebellious constructions of the mind" can "liberate the individual to a considerable extent from the definatory system of his society" (p. 133). People as individuals can "say 'no' to society and often have done so" (p. 142). No clearer call for an appreciation of dialectical or oppositional reasoning in human cognition is possible. Our next development will help clarify how language can be a vehicle for oppositionality in conveying meanings.

Postmodernism

Postmodernism is frequently identified with social constructionism. Postmodernism developed from structuralism through poststructuralism as an ongoing reaction to and rejection of essentialism. The essentialist believes that there is one and only one aspect of reality to be identified in the cre-

ation of knowledge — that is, the freestanding "essence" of whatever it is that we are describing (Culler, 1982, p. 18). Essentialists are therefore realists. Structuralists, and then poststructuralists and postmodernists took a line of argument that increasingly stressed the role of language in organizing and conveying knowledge. According to this view, it is impossible to express anything about a free-standing reality, and indeed, there is no "one" such thing in the first place. It all depends on how the item under consideration is framed linguistically

Structuralists are therefore linguistic idealists and relativists (p. 19). As a matter of fact, they do not even attribute authorship to the speaker or writer who may be conveying knowledge. It is the linguistic context, shaped by culture, which is the source of any "creation" voiced by the person (Rosenau, 1992, p. 29). "Culture" is a term used to describe the intellectual concepts, linguistic formulations, habitual behaviors, artistic expressions, and so forth, which are passed down from generation to generation in any society. In line with the Gergen–Harré position, structuralists contend that reality is not free-standing but is fashioned by, hence depends on, the language we use to characterize it.

The removal of the text from the author's influence did not stop there. The so-called New Criticism of literary analysis claimed that the written text per se had its own "being" that could be analyzed "without the help of biographical, historical, or psychological background data" (Palmer, 1969, pp. 17–18). This attitude sets the scene for the emergence of *poststructuralism*, or, as more popularly known today, *postmodernism*. Rosenau (1992) has noted that there are "probably as many forms of post-modernism as there are post-modernists" (p. 15). According to the postmodernists, not only are we humans locked into a language system, we are locked into an undecidable course of linguistic exchange (i.e., dialogue), discussing all sides of myriad issues without hope of achieving even a relative, arbitrary, culture-bound truth.

The major postmodernist discussed in the literature today is Jacques Derrida (1981), whose approach is termed *deconstructionism*. Postmodernists refer to any kind of phenomenon that can be singled out for consideration in the language as a *text* (Rosenau, 1992, p. xiv). Derrida views words in a textual phrase as always dual in meaning. That is, a word is never without some "trace" of meaning to its opposite (negation, contradiction), a meaning that is not mentioned in the text per se but which is implied nevertheless. Such meaningful traces can unhinge what is being conveyed meaningfully to suggest the reverse. Thus, to deconstruct a text is to find such traces and note how they influence what is being meaningfully formulated. A close reading of the text invariably shows that the distinctions being drawn fail because of the inconsistent and paradoxical use being made of the concepts within the text.

Derrida was influenced by Nietzsche (as well as Heidegger), and we might take an example of deconstruction from his writings. Nietzsche once challenged the view that causality is a basic principle of our universe (Culler, 1982, p. 68). He deconstructed "cause–effect" to show that even though we tend to think of the thrust of causation from the former (i.e., cause) to the latter (effect), we overlook the important role played by the latter (effect) in the identifying and naming of the former (cause). I feel a pain, look about my person and discover a pin. Instead of following the phenomenal truth, in which effect (pain) preceded and thus pointed meaningfully to cause (pin), we reverse the sequence and give the initiating influence to the cause. This is a particularly good example of a deconstruction because it is so easy to see the trace of cause (i.e., effect) or the trace of effect (i.e., cause). It is really impossible to contemplate one meaning without implying its opposite trace. Derrida has said that the preferential treatment afforded to cause over effect is typical of oppositional alignments of meaning, where a hierarchical arrangement can invariably be found. Sampson's observation concerning the constructors versus the constructed is actually a case in point (refer above).

In a deconstructive analysis we can expect to find a key point in the text relying on some such hierarchical oppositionality, enabling the deconstructor to "overturn the hierarchy at a given moment" (Derrida, 1981, p. 41). This reversal of sides exposes some paradox or contradiction in what was originally expressed, as in Nietzsche's analysis of cause–effect (Ellis, 1989, p. 139). Because the author does not matter, texts converse only with other texts (p. 116), and are always constrained by the language in which they are written. Since any meaning has its oppositional trace there is no way in which to escape the fact that nothing stands textually free of anything else — including its negation — nor can any text be proven better than any other. The result is a frozen gridlock of alternative points of view known as *intertextuality* — that is, an "endless conversation between the texts with no prospect of ever arriving at or being halted at an agreed point" (p. 116).

Oppositionality and Agency

Human agency is a difficult topic to discuss due to the innumerable approaches that have been proposed for centuries in its explanation. I find the only way to address this topic is to begin with definitions that make sense, and go on from there. The reader can then have a clear picture, enabling acceptance or rejection of the analysis. I would define *agency* as the capacity that an organism has to behave or believe in conformance with, in contradiction to, in addition to, or without regard for what is perceived to be the environmental or biological determinants of such behaviors or beliefs. I suggest that *freedom of the will* is a more informal or popular reference to

agency. The person who has free will is capable of affirming the grounds or assumptions for the sake of which she or he will then be determined. Before affirmation occurs we can speak of freedom, and after affirmation occurs we can speak of will(-power) in the behavior or beliefs carried forward by the individual. Affirmation has its trace in non-affirmation, so that it is the person who must take a position on these opposing possibilities, ever opting to go one way or the other.

How is it possible for a person to "go one way or the other" like this? Because he or she has the capacity to reason oppositionally, or, as Aristotle would have it, dialectically. The definitions of agency and free will that I have endorsed only make sense if we begin with the assumption that dialectical reasoning does take place. Dialecticality in reasoning was not first recognized by Aristotle. We can trace it back in history for thousands of years, to the foundations of all known human civilizations (see Rychlak, 1976). Psychology as a discipline cast its lot with British philosophy, which had studiously avoided taking dialectical reasoning seriously. After all, dialectics has the possibility to wind a thinker down the garden path to oblivion. Dialectics is the offspring of sophistry. Better to stay with concrete demonstrative formulations that can be put into mathematical formulae, statistical assessments, and so forth.

But if people do *in fact* reason the way Aristotle suggests, and if this insight enables us to see a particularly human cast to the behavior of people, is it proper — is it ethical — to go on behaving as if dialectical reasoning does not exist? I have gradually fashioned, and empirically tested, a dialectical theory for some forty years to date, one that enables psychologists to think of people as agents with free will (Rychlak, 1994). Oppositionality plays a huge role in this view, which I call *Logical Learning Theory* (LLT). There have also been flashes of interest in dialectical processing shown by minority positions in psychology, some of which took a quasi-Marxian approach (see Rychlak, 1994). Recently, a movement called *dialogicality* has been fashioned in Europe. So there is some interest, but there is also a long way to go in clarifying where oppositionality stands in the scheme of things human.

Neither social constructionism nor postmodernism give uniform credence to human agency. Language is what determines belief and action, and although people may have the illusion that they are somehow individually free to do as they please, they in fact have no such capacity to break free of the stranglehold that language has on them. This is how the social constructionists Gergen, Harré, and Sampson theorize. So there is really no interest in agency from these theoretical positions. On the other hand, the computer enthusiast is convinced that the control through negative feedback explanation "handles" the concept of agency. I would "deconstruct" these conclusions and say that there is no hope for true agency in a computer explanation

because without the capacity to break free of the "given" input and look to its opposite implications, an agential explanation makes no sense. The machine controls nothing. It is controlled through feedback that it is unable to question, modify, or reject. Here is where the Peter Berger wing of social constructionism lends a needed hand. The capacity to "say no" to social influences that he posits relies on oppositionality and opens up a possibility for a view like LLT to round out the picture. In LLT, people are seen as predicators who affirm meanings even as they grasp the opposite of these meanings and therefore can bring them into play without further input or feedback! When "A" is input they can move to "non–A" at will, for they are dialectical as well as demonstrative reasoners just as Aristotle claimed.

Although Derrida rejects agency, tying everything up into an unchangeable intertextual gridlock, in a strange way his postmodernist outlook can be seen to support oppositionality and therefore, I would claim, the eventual adoption of a free will alternative. After all, it is Nietzsche — the individual thinker — who intentionally recasts the cause–effect sequence to deconstruct this tandem by way of an oppositional analysis. Looked at purely in these terms, LLT would say this is an act of agency, of setting the grounds for the sake of which cause–effect is to be understood. Postmodern deconstructionism relies heavily on such oppositionality. Turning the tables, negating, reversing, seeing contrary implications in hierarchies of meaning — all such oppositionally-based activities are important in postmodern deconstructionism. I therefore conclude that if we want to discover the agential side to human behavior it is better to start with Bergerian social constructionism and Derrida's deconstructionism than with the computer analogue. And, arriving at this point, it would be marvelous from my viewpoint if we would then consider what LLT has to offer to the total mix.

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