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AGAINST METAPHYSICAL SOCIAL CONSTRUCTIONISM IN PSYCHOLOGY

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Originating in postmodern interpretations of diverse intellectual disciplines, social constructionism (SC) exerts a profound influence throughout modern psychology (K. J. Gergen, 1985), including such areas as social psychology, psychoanalysis, feminist psychology, family therapy, and the psychology of knowledge. The core of SC is the proposition that humans *construct* knowledge through social interaction. This idea has a long history in psychology and is compatible with psychology as an empirical and objective social science. However, recent radical versions of SC threaten the empirical foundation of psychology by advancing metaphysical claims about science and reality. My aims in this paper are fourfold: (a) to examine the influence of SC in contemporary psychology, (b) to disentangle the empirical from the metaphysical versions, (c) to argue that the findings of psychology said to support metaphysical SC in fact do not, and (d) to show that an empirical SC based on an analysis of the behavior of knowers is compatible with an objective and empirical psychology.

SC in Psychology

SC has been adopted by a number of subdisciplines within psychology:

Family Therapy. Family therapists encounter families, each member of which has a different perception of reality. Therapists have therefore found it useful to operate under the constructionist assumption that there may be multiple interpretations of reality (Filiaci, 1989). Consequently, therapists need not convince any family members that their conceptions are false because they conflict with objective reality or with the therapist's own views (Neimeyer, 1993). Furthermore, members of the family can learn to accept and appreciate the otherwise conflicting perspectives of other family members without feeling threatened.

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Another advantage is that the therapist is relieved of having to discern "the" truth about the family and maintain an objective and neutral position with regard to family. SC teaches the therapist that both "the" truth about the family and detached neutrality are constructions (L. Hoffman, 1991). The therapist is free to maintain a perspective and a set of values without having to adopt an authoritarian stance or impose them on the family (Epstein & Loos, 1989). The therapist can use the technique of reframing to help the family see their reality in a new way without feeling manipulative or deceptive.

Psychoanalysis. In the traditional Freudian conception, an objective reality, past and present, is assumed to exist and to be knowable by the neutral analyst. The analyst reconstructs the actual historical past of the analysand, detects transferential distortions, and controls any countertransferences that may distort objective psychoanalytic understanding.

Psychoanalytic SC rejects this model (Spence, 1976; Strenger, 1991) and contends, first, that the history generated in a psychoanalysis is a joint construction by the analyst and analysand rather than a factual *re*construction of history (Bader & Chernin, 1993; Schafer, 1983; Spence, 1982, 1987). Second, SC rejects the notion that the analyst is the neutral arbiter of what is real and what is transferential distortion (I. Z. Hoffman, 1983). Instead, both analyst and analysand are considered to have equally plausible interpretations of their relationship (I. Z. Hoffman, 1991a, 1991b). Third, countertransference cannot and need not be avoided but is rather a useful instrument in understanding the state of the therapeutic relationship. Through the continuous interplay of transference and countertransference, the psychoanalytic dyad negotiates a unique understanding of the analysand's intrapsychic past as well as the interpsychic history of the analysis itself (I. Z. Hoffman, 1992; Protter, 1985; Stolorow, Brandchaft, & Atwood, 1987). Fourth, psychoanalytic theory, with its notions of psychosexual development and psychic structure, is itself considered only a set of narrative frames that analyst and analysand might find useful in their joint constructions.

Social Psychology. SC argues that many psychological concepts, such as the self, generally assumed to refer to an individual's internal mental or physiological states, are instead social constructions and therefore dependent on time, place and culture (Hermans, Kempen, & van Loon, 1992). For example, Averill (1982, 1985) rejected conceptions of the emotions of love and anger as either fixed biological states of the body or inner feelings. Based on his studies of how people come to self-attribute emotions, he concluded instead that people attribute these emotions to themselves based on paradigms provided by society.

The influence of SC also appears in the social psychological study of science. In ethnographic studies of scientific research, the investigator studies a modern scientific lab in much the same manner as an anthropologist studies the practices and institutions of an unknown culture (Gilbert & Mulkay, 1984). Reviewing several of such ethnographic investigations, Knorr-Cetina says, "The constructivist interpretation is opposed to the conception of scientific investigation as descriptive. . . . Constructivist interpretation considers the products of science as . . . the result of a process of (reflexive) fabrication . . . scientists' activities are directed not towards 'reality' but towards . . . an agonistic field of social conflict constituted by other scientists and their statements" (1983, pp. 118-119, 127). Although scientific "facts" are presented as if they are the discovery of a literal truth about an independent nature, in fact, what counts as a "fact" is the "manufactured" result of a long social process of conflict and negotiation among a select group of scientists, each motivated by self-advancement rather than the detached neutrality of the positivist myth. Similarly, in the Strong Programme in the sociology of science, historical sociological studies claim to show that *all* beliefs, including the "truths" of the scientist, are brought about by the local self-interest of social groups (Bloor, 1976/1991; Collins, 1981a).

Feminist Psychology. According to SC versions of feminist psychology, modern psychology is a social construction operating under a hierarchical conceptual framework devised by males to maintain power (Riger, 1992). Androcentric psychologists tend to essentialize gender, that is, they construct maleness and femaleness as biological givens, unchangeable, natural, and essentially distinct (Tiefer, 1988). These constructions thus serve to maintain the status quo of power relations. Similarly, androcentric psychologists have decontextualized gender. Much basic research has been carried out on exclusively male subject populations, yet the conclusions have been universalized to represent the human mind, regardless of gender, class, or race. When women have been studied, any gender-specific results have been explained as female traits rather than as due to the social, historical, and political context in which women live (Unger, 1988). Theories about gender differences are constructed in ways that devalue women. Far from being value-neutral, psychological methods and theorizing reflect male values and interests. Problems selected for research are those of interest to males while those of interest to women are marginalized (Harding, 1987a, 1987b).

Constructionist feminists claim that the positivist definition of objectivity requiring the experimenter to be neutral, detached, and uninvolved with the subject is an androcentric construction (Unger, 1983). In contrast, females are considered to be more connected with others and to act in relationship rather than

independently (Scheman, 1983). Hence, when a female experimental subject is treated in the detached, neutral, and distant manner dictated by positivist "objectivity," the results of the experiment reflect the female subject's reactions to a socially aberrant social situation rather than the process supposedly under investigation (M. M. Gergen, 1988). The "objective" stance is seen as serving male psychological defensive needs resulting from male psychosexual development (Flax, 1983; Keller, 1983). Moreover, it has the immoral effect of dehumanizing the subject of an experiment by turning a human being into an object (Acker, Barry, & Esseveld, 1983; Wittig, 1985).

Empirical Versus Metaphysical

SC can be located within a traditional empirical debate in psychology over the relationship between behavior and the environment. On the one hand are those, such as the early reflexological behaviorists with their S→R formula, who argue that behavior is best conceived as a direct function of the external environment. On the other hand are those who claim that behavior is better understood as a function of the environment as transformed and supplemented by processes within the organism. Gestalt psychologists (e. g., Lewin, 1936) suggested that humans can best be understood in terms of their "life spaces," that is, the world as processed by autochthonous operations within, and transactionalists (Ittelson & Kilpatrick, 1951) spoke of the "assumptive world" resulting from our interactions with the environment. Similarly, cognitivists (Mahoney, 1977, 1989) argue that humans respond to cognitive representations of the world rather than to the world itself. From the perspective of this debate, SC can be seen as aligning itself with the position that behavior is not a direct function of the environment. SC adds that it is through social interaction that people construct the knowledge of the world to which they respond.

Traditionally, those who see behavior as a function of the psychological world have tried to explain how the organism transforms input from the natural world into the psychological world (Von Foerster, 1984). Indeed, this issue was one of the first investigated by the new discipline of psychology. It had long been known that people's perceptions of stimuli often do not correspond directly to the physical properties of those stimuli. For example, a human's perceptions of changes in the loudness of a sound do not correspond linearly to the physical changes in the stimulus. Hence it is possible to distinguish between the stimulus as perceived and the physical stimulus. Finding the mathematical relationship between psychological and physical magnitudes became the goal of psychophysics.

This distinction between the psychological and the physical stimulus has been adopted throughout psychology. Social psychologists, for example, examine behavior under controlled social conditions and relate it to both the situation as perceived, or judged, by the subject and the objective situation as measured by the experimenter. Similarly, cognitive theorists relate a subject's responses to internal representations of the world and explain how these representations result from processing of input from the physical world. Thus, even those who stress the importance of the psychological world admit to two important points: (a) The psychological world is to be distinguished from the natural world as described by the sciences, and (b) relationships discovered among behavior, the psychological world, and the natural world are themselves part of the description of the natural world and can be investigated by empirical means.

Many of the claims of SC can be understood within this empirical framework. However, some recent versions of SC are metaphysical rather than empirical. Whereas empirical social constructionism (ESC) distinguishes the natural world from the constructed world and admits the findings of psychology as descriptions of the natural world, metaphysical social constructionism (MSC) denies both these positions. In its more radical versions, MSC argues that the "natural" or "objective" world as presented by science is a constructed world with no more claim to reality than any other psychological world.

Thus, in discussing SC it is important to distinguish between ESC, which accepts the natural world and operates within it, and MSC, which makes philosophical claims about reality, objectivity, and the nature of knowledge. The two are often confused. Characterizing MSC is difficult because it consists of a range of positions and because these positions do not value adherence to consistency and internal coherence. Nevertheless, in order to discuss MSC, I shall present some key propositions although they are neither a necessary nor sufficient characterization.

1. MSC rejects the view, most closely associated with positivism, that the natural world consists of an external, objective reality, independent of the human mind. The goal of positivist science is to produce accurate descriptions corresponding to this reality by an objective neutral observer who constructs theories to be tested against these objective data. Much of the positivist picture of scientific knowledge, with its sharp distinctions between theory and observation, value and fact, discovery and justification, has been rejected by modern philosophy of science. Instead, MSC proposes that rather than discovering an objective, external, independent reality, humans *construct* knowledge (Bohan, 1992). All knowledge is a human interpretation, arising from social interactions in the form

of conversation, negotiation, coordination, and other social practices (Harvey, 1981). Accordingly, the truth of a belief lies not in its correspondence with an external reality but rather in its usefulness in furthering social interests.

2. Because the known world is the world as socially constructed, we cannot transcend our constructions and contact reality directly. Knowledge is limited to conceptualizations of the world, using interpretive categories, concepts, and theories. These interpretative frames are variously designated "conceptual frameworks," "paradigms," "languages," "perspectives," "conceptual schemes," "language games," and "narratives."

Just as the contents of knowledge are our own constructions, so are our epistemic norms. Standards of validity, truth, justification, logic, rationality, scientific method, observation, and objectivity are socially constructed within our frames rather than imposed by the natural world. Since frames are unconstrained by reality, there can be alternate and even contradictory frames, each with its own criteria. Howard (1991), for example, calls these frames "stories" and refers to the process of using these stories to explain the universe as "storytelling." In his view, "The criteria for determining the adequacy of nonscientific forms of storytelling are quite different from the epistemic criteria . . . that test the adequacy of scientific theories" (p. 189).

This relativism of truth to a frame means that other cultures may have knowledge quite different from, and perhaps even incompatible with, our own, and we have no way to justify our choice. Each culture justifies its own knowledge and norms by standards internal to its frame. As Shweder describes it, "Rationality is compatible with diversity. . . . Reality is not independent of our version of it. Within any version there is a distinction to be made between what's real and what's unreal, but not necessarily the same distinction" (1986, p. 191). Only from an absolute and perspectiveless "godseye" can frames be evaluated externally, and such perspectivelessness is excluded by MSC.

3. From a positivist stance, values detract from the detached neutrality thought necessary for objective understanding. However, if knowledge is seen as a human construction, then values and motivations are a necessary component, and the value-fact distinction collapses (Hare-Mustin & Marecek, 1988). Detached neutrality is just another component of the myth of objectivity, used to further the interests of those in control. Therefore, all constructions of knowledge must be deconstructed to determine what and whose interests they serve (Prilleltensky, 1989), and they should be evaluated for their social effects (Howard, 1985).

4. For MSC, adherence to scientific method does not and cannot guarantee objectivity. Objectivity rests neither in a correspondence with a mythical objective

reality nor in a false disinterested neutrality but is socially determined by the standards and interests of humanly constructed frames. Agreement does not come about through appeal to absolutes but through social interactions in the form of conversations, negotiations, rhetoric, and persuasion (Potter, 1992). Understanding, especially in the social sciences, is more a matter of interpretation than strictly rule-governed logic and calls for the interpretative disciplines, including hermeneutics and deconstruction (Gergen, Hepburn, & Fisher, 1986; Scott, 1988). Packer, for example, criticizes experimental psychology for the "view that reality . . . is composed of context-independent, interpretation-free elements that are only later combined . . . by logical, formal, context-free rules. . . . [In contrast,] the object of study in hermeneutical inquiry is neither an abstract system of relations nor a mechanical system of forces but rather the semantic or textual structure of everyday practical activity" (1985, p. 1086).

Disentagling ESC and MSC

Taken together, the claims of MSC undermine the possibility of an objective and empirical psychology. For this reason it is important to determine how much of SC adopted in psychology derives from MSC and how much comes from the more modest ESC. Much of the application of SC to family therapy can be seen as ESC rather than as MSC. For example, family therapists contend that to most effectively bring about change they must understand the different psychological worlds their patients have constructed for themselves and try not to impose one. These are empirical claims despite frequently being confused with metaphysical ones (Held, 1990; Held & Pols, 1985). Although they may be difficult to test, they are no more so than most claims about psychotherapy. Most important, contrary to conventional opinion, they do not imply that a researcher investigating these hypotheses cannot arrive at objective conclusions or that the family's constructed worlds are not functions of the natural world (Coyne, 1985; Speed, 1991).

Similarly, many applications of SC to psychoanalysis are also empirical (Stern, 1985, 1992). That the childhood history constructed through psychoanalysis does not have to conform to actual history to cure the neurosis is an empirical claim. It does not necessarily deny that there is a factual history. To be sure, it may be difficult to compare that history to the narrative that emerges from a psychoanalysis, but there is evidence that would at least be relevant if not decisive (Goldberg, 1984).

Likewise, it is an empirical hypothesis that analysis is more effective if the analyst does not assume to have a more accurate perception of reality and

transference than the analysand. It is also an empirical hypothesis that the narrative generated by an analysis is a joint construction of the analytic dyad rather than an objective description (Loch, 1977). Similarly, whether countertransference is to be avoided or made use of is also an empirical question. Probably analysts are not in a good position to gather evidence on these questions, but that does not imply that third-party observers cannot.

Much of SC work in social psychology is also empirical. For example, Averill's (1982, 1985) study of the emotions, often cited as a paradigm of SC social psychology, used a questionnaire, a standard empirical method, to discover what people had to say about falling in love. Although Averill questioned our everyday notions of emotion as individual, internal, and physiological, he showed how people's perceptions of their emotions are a function of social interactions in the natural world. Hence his work exemplifies ESC.

Similarly, much of the research and theory in the psychology of knowledge can be understood as empirical. The SC analysis is reflexive in the sense that the analysis can be turned back on itself—that is, when SC hypothesizes how human social constructions arise in the natural and social worlds, it recognizes that the "social world" and the "natural world" it assumes as background theory are themselves constructions of the social science community and the natural science community, respectively. Therefore, SC can study how the social constructions of these two communities arise in the natural and social worlds while recognizing that the worlds it posits are its own construction, subject to the same analysis on yet a higher level. At each level, SC explains the constructions of the level below it, using its own constructions as explanatory concepts. Nevertheless, regardless its level, the analysis always operates within its own construction of the empirical world as its domain; it never transcends its empiricism.

In feminist psychology, SC has resulted in many empirical hypotheses (e. g., Sassen, 1980). To what extent gender is biologically or socially determined is an empirical question. Whether experiments with a detached, neutral experimenter yield unrepresentative results is also open to experimental investigation. Theoretical interpretations which devalue women can be empirically tested. Hypotheses about how men have excluded women in psychology and constructed psychological theories to oppress women are also empirical and purport to be descriptions of the real world.

Feminist psychologists' attacks on traditional psychology are in many cases complaints that psychology has not lived up to its own scientific standards (Longino, 1989). Indeed, feminists have recognized that many of their attacks on science, and psychology in particular, have been attacks on "bad science" rather

than "science as usual," and have termed this "feminist empiricism." Feminist empiricism thus accepts science and the natural world, and it uses scientific method to attack inept scientific practice (Harding, 1986; Peplau & Conrad, 1989).

Roots of SC

It thus appears that much of SC as adopted in psychology can be understood as ESC. Yet, the rhetoric of SC in contemporary psychology often appears in the form of MSC. Supporters of MSC in psychology assume that objectivity and empiricism must be rejected and believe that MSC follows from advances in contemporary philosophy and psychology. I shall argue that, to the contrary, MSC views on the construction of reality are often distortions of late twentieth-century philosophy and psychology.

The philosophical roots of SC are to be found in the work of Wittgenstein (1953), Quine (1960), Kuhn (1962/1970), Goodman (1965), and Rorty (1979). These thinkers rejected an earlier metaphor for knowledge, the image of the mind as a mirror. According to this model, when a human mind achieves true knowledge, the world is reflected in the mind, just as in a mirror. Reflection implies that knowledge is purely a result of the world rather than the mind. Therefore, when true human knowledge is verbalized, the resulting descriptions correspond precisely to the world as it is independent of the mind.

To replace the mirror metaphor, philosophers have shown how knowledge is dependent on human psychology and social interaction. At the most fundamental level, the conceptual categories and classification system we use to describe the world are not unique. We can use many equally valid systems, and the choice of a system is determined by human purposes rather than the intrinsic nature of the world. Even the concepts and laws of science result from human choices based on our values rather than imposed on us by nature. Science also depends heavily on metaphors and models which serve psychological, rather than purely descriptive, functions.

The roots of SC in psychology are equally deep. Psychologists have long known that perception is not the passive reception of stimulation and that the mind imposes its own organization and categorization on perception. Recent research on concept formation shows that the way we categorize, conceptualize, and describe is dependent on psychological factors and is not uniquely determined by the nature of the stimulus (Lakoff, 1987).

Behavioral psychologists have shown that the process by which language is connected to the world is not the simple correspondence envisioned by the mirror

model. Much of our descriptive speech consists of what Skinner (1957, ch. 5) calls "tacts." A tact is a verbal operant response that is evoked by an object or event, or property of an object or an event. However, the relationship between a tact and stimulus properties in the world is a complicated one, depending on the social contingencies of reinforcement maintained by the verbal community and the discriminative capacities of the speaker. Thus, the relationship between even our most purely scientific speech and the world we are describing is filtered by the reinforcing practices of our verbal community and our dimensions of generalization, or similarity. Consequently, the role of social interaction and human psychology is built into the very core of descriptive language and therefore of human knowledge (see Guerin, 1992).

Thus, important currents in both psychology and philosophy have converged into two important implications: (a) There is no unique true description of the world; instead there are many, and (b) the structure and organization of knowledge is dependent on human social interaction and psychology. MSC, however, has distorted and exceeded these important conclusions and asserted unwarranted and incoherent claims about the nature of reality.

Reality

One of these claims comes from the Strong Programme (SP) in the sociology of knowledge. Collins, for example, drawing on the theory-ladenness of observation and the consequent collapse of the distinction between theory and observation, has declared, "The natural world in no way constrains what is believed to be"(1981b, p. 54) and "The natural world must be treated as though it did not affect our perception of it" (1983, p. 88). Knowledge is thus purely a function of social interaction. Prima facie, these assertions are incredible. If true, they would make a miracle out of the technical successes of science as well as everyday achievements (Hesse, 1986). Bridges stand and planes fly. If knowledge had nothing to do with the world, these achievements would be deep mysteries. The only accomplishments of knowledge would be the furthering of the social interests of certain social groups.

Furthermore, Collins's claims seem to contradict his premises. According to him, knowledge results from certain social interactions. But why is it that certain social interactions result in a particular belief? Why is it that certain beliefs further the interests of certain groups? Must it not be due to certain causal regularities in the world? And if the world were different, would not those same interactions eventuate in a different belief? Thus in this very fundamental way, the world plays

a role in our beliefs. To be sure, it is not the only variable, but it must be counted as one of a number of interacting variables determining knowledge.

Other versions of MSC have radically distorted the philosophical conclusions that there is no one unique true description of the world and that human knowledge has a strong social component. These versions assert: (a) There is no reality beyond or independent of our descriptions of reality; therefore (b) reality, or what is a fact, or what is objective, is our creation (Watzlawick, 1978); therefore (c) we are free to create reality to serve our own purposes, and one construction is as good as any other (Held & Pols, 1987; Reamy-Stephenson, 1983; Shotter, 1992).

One obvious problem with these claims is that they contradict the core assumptions of MSC. Fundamentally, MSC is the thesis that knowledge is constructed through social interaction. This thesis claims to be a description of reality, asserts certain facts about the social world, and assumes certain causal relations to hold between social interactions and knowledge. If there is no reality, how can MSC make such statements about the world? Why do negotiation and discourse affect belief? Why do people pursue their own interests? If MSC is itself a social construction, what claim does it have on our belief (Pomichalek, 1992)?

Another problem for MSC is that we know we cannot arbitrarily impose just any descriptive system on the world. Some fit, and some do not. The latter end up with mostly null-sets for their concepts, and the members of their categories do not interrelate as the system supposes them to do. To be sure, this is not known to us as a mismatch between a classification system and the world because we do not experience the world independent of a classification system. Strictly speaking, we have a mismatch between two systems (von Glaserfeld, 1984). Nevertheless, the point remains that we do not have complete freedom in choice of system and in matches between systems (Hesse, 1992). This feature of our experience is what is meant by an independent reality.

Furthermore, once a system and frame are selected, we do not completely control what will turn out to be a fact (Mandelbaum, 1979; Putnam 1990). Indeed, the whole purpose of norms within all frames is to distinguish between the valid and invalid, the true and the false. Even Kuhn (1962/1970), whose theory of incommensurability serves as a source for MSC claims, emphasized the importance of anomalies, events that contradict the assumptions of the paradigm. This independence of what turns out to be a fact, given a system, is also what is meant by an independent reality.

Of course, the multiplicity of systems implies that in a sense facts are relative to a system and a frame. Psychologists, biologists, basketball fans, theologians,

and artists will describe an event in different systems and perhaps different frames. Consequently, the facts for one will differ from the facts for another. Perhaps the facts for one group will not be expressible in the system of another. However, this certainly does not mean that the facts for the psychologists are false for the biologists, or fictions for the fans, or do not exist for the theologians. We seek facts in a particular system and frame, and this is as factual as we would ever want or need to be.

Empirical support for MSC seems to come from ethnographic studies of scientific laboratories that claim to show how scientific facts are manufactured through social interactions among scientists (Knorr-Cetina, 1981, 1983; Latour & Woolgar, 1979). The problem with this evidence is that these studies examine not scientific facts but the *social acceptance* of scientific facts (Fox, 1988). Not surprisingly, they have uncovered a wealth of interesting findings on the negotiations, conflicts, conversations, and internal politics occurring as scientists debate whether to accept an hypothesis. However, to show that *acceptance* of a belief as fact is the result of a complex social process is not to show that the fact is also the product of a social process. Yet, MSC equates the two, insisting, for example, that the existence of a newly discovered virus is a social construction because acceptance of this discovery was a result of social processes.

It may be objected that being a fact and being accepted as a fact cannot be distinguished. After all, in the absence of the mirror metaphor, we can never know with certainty if a belief is a fact because we can never check our beliefs directly with an unconceptualized reality. All we have is social acceptance. In response, it should be noted that although acceptance of a belief may be our best indicator of truth, it is not identical to truth. Only according to the strict operationism of the logical positivism rejected by SC can we legitimately equate a concept with its indicator. Our concepts of truth and facthood may indeed be idealized (Putnam, 1981) and not realizable given the uncertainty of knowledge, but they are quite different from our concept of social acceptance (Greenwood, 1992; Hesse, 1980d).

Conflating the two has led to many of the excesses of MSC. Suppose at time *T* we discover fact *P*, "Planet *X* has an additional moon, *Y*." If the fact *P* is erroneously equated with the acceptance of *P* as a fact, then it makes sense to say, (1) *Y* did not exist before *T*, (2) *Y* is a social creation, (3) *Y* is not "out there," independent of us.

Certainly, while *Y* was being discovered, there may have been scientific debates about *P*'s truth: How accurate were the observations? Does *Y* fit our definition of "moon"? However, once these are settled, what does it mean to say that *Y* did not exist before *T*, or that *Y* is a social creation not independent of us?

When we accept *P* as a fact, we accept that *Y* was a moon of *X* well before the discovery of *P*, that *Y*'s being a moon of *X* is independent of us, and that *P* would be a fact even had we not discovered it or if we cease to exist. If MSC denies this, then it denies what we understand a fact to be (Putnam, 1990). Is MSC denying our understanding on scientific grounds? Does it have evidence that *P* was not true before *T*? Clearly, MSC is not arguing its case on scientific grounds.

Nor do its claims seem to follow from its genuine insights. From the fact that we construct our frames and linguistic systems, it does not follow that we also construct what we discover within them any more than it follows that because we constructed the microscope, we created any microbes found with it. We can classify a group of objects according to size, shape, color, or function and decide on the classification and individuation criteria. If we count only the red ones we will get a different number than if we count only the square ones, and the count will differ, as well, with different class definitions and individuation rules. In this sense, our data depend on systems of our creation, but it does not follow that the objects upon which we impose our classification system are also our creations.

MSC denials of an independent reality thus are not supported by scientific evidence or by the philosophical arguments from which SC is derived. The only defense for these assertions is traditional skepticism, plaguing philosophy from its beginnings with questions about our lack of certainty: How do you know that the room continues to exist when no one perceives it? How do I know that people other than I also have minds? Skepticism can lead to the conclusions that the microbes, moons, and sub-atomic particles discovered by science did not exist prior to their discovery, are not independent of us, and are our creations. Note two things, however. First, as based on skepticism, these arguments are not new and do not derive from the important insights of SC. Second, these arguments are irrelevant to science and to psychology, in particular. Skeptical arguments, by their nature, have no empirical consequences. If they did, if, for example, it would make some empirical difference were the world created five minutes ago, then there would be some way to test empirically the hypothesis. It is essential to the skeptical argument, however, that there be no empirical tests to refute possibly the skeptical doubts. Hence, the skeptical arguments are irrelevant to our practices of acquiring knowledge and to psychology.

In general, MSC asserts that the external world does not exist and all we really have is our constructions. Yet, social construction is also a process that takes place in reality. It consists of interactions among people in dialog, negotiation, and discourse. Why are these processes considered real, external, and independent while the rest of nature is not (Woolgar, 1981, 1983)? Social interactions are as

much part of the natural world as moons and microbes. Why does MSC allow us direct epistemic access to the social world and not to the rest of the natural world? Only by drawing an indefensible distinction between the two can MSC accept social interactions and reject any other reality. This problematic distinction is also the basis for erroneously equating a fact with the social acceptance of a fact.

In this way, MSC is a version of solipsism. Just as traditional solipsism argued that we have direct access only to our own minds, so MSC says that we have direct access only to our own constructions. Both versions of solipsism conclude that our knowledge of the external world is either an unjustified inference or a construction from what we have direct access to. However, whereas traditional solipsism could draw a prima facie distinction between the private individual mind and the external world, MSC cannot justify a similar distinction between social interactions and the rest of the natural world.

In summary, MSC's rejection of our normal conceptual scheme about reality is not derived from scientific evidence, the findings of psychology, or contemporary philosophical attempts to replace the mind-as-a-mirror model. Instead, it is a distortion of those sources, and it is based on two related errors: first, the false distinction between the social world and the rest of the natural world, and second, the erroneous equation of a fact with the social acceptance of a belief as a fact. These errors gain their plausibility from a version of traditional skepticism which leads ultimately to solipsism and irrelevance.

Objectivity

MSC rejects objectivity, claiming it is merely a social construction used by those in power to make their own beliefs and methods seem neutral and true. Hence, the methods and knowledge we consider objective possess no superiority (K. J. Gergen, 1989). This conclusion, too, is based on a misconstrual of the rejection of the mirror metaphor and the implication that there is no *one* true objective description of the world. MSC takes this conclusion an unwarranted step further, contending that there is *no* true objective description of the world at all (Dell, 1985). MSC fails to see that even in the absence of a mirror, the distinction between objective and subjective still holds within a socially constructed epistemic system.

As the study of the subjective, psychology can help in our understanding of this issue. Let us begin with a simple distinction. We sometimes respond directly to a stimulus—rain falls and we go inside. More often, we first act on a stimulus, thereby altering it into a transformed stimulus to which we ultimately respond. For example, we may bring a sound source closer to our ears to hear it better or

tilt an object to the fronto-parallel plane in judging its shape. The purpose of these activities is to create a transformed stimulus that makes our subsequent action more effective in achieving our purposes. Skinner (1968) has suggested the term "precurrent behavior" to cover actions of this sort. We learn by experience which precurrent actions have this beneficial effect.

With age, children increase their precurrent activities and decrease their direct responses to stimuli. In the intellectual development of humankind, we find this same progression. Humans found it more effective to do the precurrent activity of counting the number of fruits in a pile first and then respond to their own verbalization rather than to the pile itself, or to pace a field rather than just estimate its size visually. Some of these precurrent activities developed into what we now know as measurement procedures. In modern times, these procedures came to include the applications of instruments. These devices interact with the original stimulus and transform it into another set of stimuli, such as dial and pointer readings, to which we then respond. Consequently, our ultimate response is to the results (usually in verbal form) of an interaction between our precurrent actions (including the use of instruments) and objects. We conceptualize this as our responding to a property of the original stimulus, as revealed by the precurrent activities.

Humans gradually learned which precurrent activities result ultimately in actions that are more precise and reliable (Papineau, 1988). Counting fruits rather than responding to them visually means that one is more likely to make the same judgment about the amount of fruit each time and the information will be more exact. Another advantage is that the transformed stimulus properties often require only very simple discriminations and therefore commanded greater intersubjective agreement (Quine, 1969a). With pacing it is more likely that a group of farmers will agree on the size of a field than if each were to rely on visual inspection alone. Most important, many precurrent activities enabled humans to vastly improve their ability to anticipate and even change nature to serve human needs. A precise measurement of the depth of water in a pond allows a farmer to anticipate more effectively the effects of the drought season than would a visual inspection.

Gradually it was learned that the properties revealed by a select number of precurrent activities could be used to formulate generalizations about nature, and we have the beginnings of science. Science seeks precurrent activities (methods of observation, measurement, experimentation) that transform the stimulus properties of nature, as we naively perceive them, into properties that are reliable, precise, command intersubjective agreement, and fit into verbal generalizations, laws, and theories that enhance our ability to predict and control the natural

world. The world as described by science is the world of these properties (Quine, 1969b). This pragmatic conception of objectivity is expressed by Skinner:

> Empirical science . . . is a set of practices which are productive of useful behavior. . . . An important part of scientific practice is the evaluation of the probability that a verbal response is "right" or "true"—that it may be acted upon successfully. (1957, p 428)

Many areas of psychology are devoted to discovering the relationships between the world described by science and the world as described by humans without the benefit of precurrent activities. Psychophysics, for example, examines the relationship between the brightness of a light as perceived by an observer and the intensity of that light as measured by a photometer, or social psychology might correlate students' judgments of the amount of drinking on campus with an actual frequency count of drinking. In each of these two examples, the first variable is considered "psychological, "perceived," or "subjective" (e. g. "subjective brightness," "perceived drinking"), and the second variable is considered "objective."

The distinction between subjective and objective properties is not that the latter are real and external while the former are only in our minds. Both are properties of external stimuli, with the former using human subjects as measuring instruments. Both rely on human psychology, even the "objective" ones. Although science may use automated apparatus and measuring devices, the procedures for applying and reading them are rule-governed. Since rules underdetermine action, the precurrent activities of science are successful only because social interaction within the scientific community in conjunction with human psychology fills the gap between rule and action. Even the simple discriminations required for reading the results of these procedures are dependent on human pattern recognition.

Thus, the distinction between subjective and objective in these areas of psychology is not based on ontology. Rather it derives from the fact that the objective descriptive properties have the useful features to a far greater degree than the subjective ones: They are much more reliable, precise, and intersubjectively agreed to; when using them, we are far more successful in anticipating the future and in adjusting the world to suit our needs (Hesse, 1980b). Accordingly, a *method* is considered objective if it is reliable, precise, can be intersubjectively followed, and yields objective descriptions.

In the absence of the mind as a mirror, we have to discover empirically what descriptions and methods have the special features of objectivity. There is no a priori reason why our naive perceptions of the world do not command a greater intersubjective agreement than the descriptive properties generated by our

measurement procedures. There is similarly no a priori reason why descriptive properties that command intersubjective agreement should be any more useful for the instrumental control of nature than properties that do not. All we can say is that this is what we have (so far) found, and like all inductions, this one lacks a logical foundation.

Objectivity is thus a tool we discovered to further human interests (Hesse, 1980a). It evolves over time as we find more useful methods to discover more useful properties. Its human roots are obvious. First, the goals of objectivity are human goals. Second, reliability, intersubjective agreement, and final discriminations are all relative to human psychological and social capacities. Third, the precurrent activities of observation, detection, measurement, and experimentation are all rule-governed, and they therefore rely on human psychology and social practices to fill the gap between rule and action. It is in this sense that SC is correct in saying that objectivity is a social construct and it is not imposed upon us by the nature of the world.

MSC, however, further asserts that our norms of objectivity are arbitrary, and we are free to choose others. In Gergen's words, "As one moves from individual to social epistemology questions of truth and objectivity recede into obscurity . . . the concept of 'objective validity' ceases to be sacred . . . rather, concepts of truth and objectivity may largely be viewed as rhetorical devices" (K. J. Gergen, 1989, p. 473). Accordingly, MSC denies that we can have an objective description of the world. If these assertions mean that we can have goals for knowledge other than instrumental control and we therefore can have norms other than scientific objectivity, then surely MSC is correct. The norms of validity and logic that we might find useful in interpreting a poem or deciding a moral dilemma might be quite different from those of science (Margolis, 1991). MSC is also correct if it means to say that we can have objective descriptions other than those of science. We make use of many descriptions (e. g., attendance records, average number of televisions per household) which have high reliability, intersubjective agreement, and usefulness in making our way around the world, but which are not formally part of science.

However, once we have chosen a set of goals for objectivity, what sense does it make to say that the criteria that best achieve those goals are "arbitrary"? Similarly, once we have discovered those criteria, what sense does it make to say that the resulting descriptions are not objective? To be sure, a description may not be the only true objective description, but why deny that it is *an* objective description? MSC argues that the goals of manipulation and control of nature are evil because they have led to the destruction of our environment, the

objectification of human subjects, and the oppression of powerless people. It recommends, instead, an emancipatory and collaborative psychology whose goals are the creation of a just and equal society (Acker et al., 1983; Harding, 1986). These ethical arguments to change the goals of psychology deserve a hearing. A psychology with ethical goals may well have standards of objectivity and validity different from traditional ones. Indeed, over the history of psychology, there have been theoretical approaches for which goals such as empathic understanding or ideographic description have been valued over reliability, intersubjective agreement, prediction, and control. Yet, the existence of parallel psychologies, each with a different set of goals and norms, invalidates neither empirical psychology nor its objective descriptions. Objectivity may be relative to goals, but given those goals, we can have all the objectivity we need.

This pragmatic standard of validity is relevant to the issue of relativity. Psychologists have long known that the thought and language of young children, although different from those of normal adults, are not random. Children follow rules and a logic of their own and thus have their own standards of validity. To some degree the same is true of certain psychotics. Why do we not take the logic of children and psychotics as evidence for relativism and say that they exemplify a radically different but equally valid rationality?

Surely the answer must involve the fact that normal adults can do things with their epistemic norms that children and psychotics cannot. Normal adults can better anticipate events, achieve their goals, and are less likely to do unintended harm to themselves and others. Relativism does not seem a credible hypothesis. When we encounter an alien culture, similar considerations apply. Assuming we know the goals of this culture and that there is some overlap with ours, we can compare our standards with theirs along practical dimensions (Hollis, 1982; Lukes, 1982). If they value the reliable anticipation of events, the ability to change the world for certain human purposes, intersubjective agreement, and so forth, then we can discover which standards are better for these shared purposes. On the other hand, if the goals of the other culture are different from ours, for example, the aim of their knowledge is to please their gods, we would have parallel standards of validity, each for its own purposes (Hesse, 1980c; Moser, 1993).

To be sure, two cultures may differ on how to judge progress on shared practical dimensions or on how much weight to give each and therefore may not come to agreement on a comparison. In that case, we are in a situation very similar to Kuhn's (1977) description of theory choice. He notes that scientific theories can be judged by pragmatic values of accuracy, consistency, comprehensiveness, simplicity, and fruitfulness. Different theories may interpret and apply these

criteria differently. Consequently, they do not constitute an algorithm for choosing between rival theories. Nevertheless, the choice is not an irrational matter of subjective personal taste. Instead, the application of the criteria can be a matter of debate, discussion, and judgment even though the outcome is not rule determined (Bernstein, 1983; Brown, 1988; Newell, 1986).

Supporters of the Strong Programme (SP) note that data never imply only one theory and that many theories are compatible with a set of data. Therefore, in the leap from data to developing a particular theory there is a logical gap. SP proposes filling this gap with sociological variables (Bloor, 1984). According to SP, a scientific hypothesis is proposed and accepted because it advances the interests of a social group, thus apparently undermining our notion of scientific objectivity as being neutral and disinterested. Yet, even the social interest hypothesis may be compatible with a pragmatic conception of objectivity. After all, it is in the social interest of some social groups, especially the scientific community, to develop methods to maximize reliability, intersubjective agreement, and instrumental prediction and control over the environment. Thus, a scientist might be seeking to advance the interests of a group by seeking objective descriptions of the world (Yearly, 1982).

Any act can be described in an indefinite number of ways. We observe a man walking, and we can describe him in terms of the movements of body parts or as "walking south," "mailing a letter," or "applying for a job," all of which may be true simultaneously. To argue that only the bodily movements are observed and all the other descriptions are only interpretations is a kind of unsupportable reductionism based on an outmoded observation-theory distinction. Similarly, the behavior of the scientist can be described on many levels. Whatever one's theory of motivation, the behavior of scientists (and indeed everyone's behavior) can be described as the attempted fulfillment of certain motives, and social interests are a subclass of motive. Nevertheless, that truism does not preclude the same behavior as also being accurately described in any number of other ways. When Newton announced a scientific discovery, it may be an accurate description of his behavior to say that it occurred as a defense from oedipal anxiety. Yet, it may also be an accurate description to say that he acted rationally, objectively, scientifically, and logically.

Conclusion

Psychologists have not been careful to distinguish ESC, with a long history in psychology, from MSC, which threatens to undermine the possibility of an objective and empirical psychology. Many of the extravagant claims of MSC,

particularly the rejection of reality and objectivity, do not follow from the insights of contemporary psychology and philosophy. Indeed, many of these claims are incoherent and cannot withstand close scrutiny. In contrast, ESC makes it possible to develop an empirical and objective psychology while recognizing the role of human activity in the construction of descriptions of reality and criteria of objectivity.

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