

7 Divergent Rationalities

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One thing that bothers some observers of the social sciences is that the foundations of the field seem to be "essentially contestable" (to borrow an expression from Gallie 1964).¹ Diverse schools of thought, each identified with some founding father (Freud, Marx, Darwin, Skinner, Piaget, Adam Smith) or rebellious progeny (Jung, Sullivan, Rogers, Kohut), conceptualize mind, motivation, society, and nature in somewhat different ways. The basic concepts and "root metaphors" (Pepper 1972) of each school are difficult to coordinate or translate; and if one school makes the rare effort to coordinate viewpoints and succeeds (from its point of view) in translating into its own terms the concepts of the other school (for example, Dollard and Miller's 1950 translation of Freud into learning theory), that other school is quick to complain that something essential has been lost in the translation. Within the social sciences, there seem to be so many perspectives and no detached way to choose among them (each school, of course, trains its own partisan advocates), and those diverse perspectives seem neither to be perspectives on exactly the same thing nor perspectives on entirely different things.

Some observers are reminded by this diversity of Kuhn's pre-paradigmatic stage of science (1970), and the social sciences are sometimes described as science in its youth. But that does not seem quite right. Social thought has been around for a long time; it is not as if each of the several schools of thought is pressing for that notable scientific achievement or crucial experiment in the wake of which the diversity will disappear, a unifying paradigm will emerge, and real science will begin. Of course, there may well be a continuing competition for political domination and unification of the field (control of editorships of journals, etc.), but at the higher levels of intellectual activity, things are essentially multiparadig-

matic or pluralistic. The diversity somehow is endemic, and the shift from one school of thought to another is much like a move across "ideological regions," a radical change in conceptual reference points.

Being an anthropologist, I have from time to time moved across ideological regions, having lived in worlds—among Zinacanteco shamans in Mexico, Oriza temple priests in India (Shweder 1979; Shweder & Bourne 1982; Shweder & Miller 1985)—where an empathic shift in conceptual reference points has produced in me a somewhat different sense of what's real and what's unreal. I'm not sure which requires a greater alteration of consciousness: moving into a Hindu temple town in India—where it is thought that ancestral spirits return home every day to be fed; that souls transmigrate; that the womb is hell; that nature, through its unequal distribution of health, wealth, and status, punishes vice and rewards virtue; and that at least some dreams are really communications received over a noisy channel from gods, goddesses, and spirits—or attending a seminar at the Institute for Psychoanalysis or the Institute for Marxist Studies or the Radical Behaviorist Institute or the Institute for a Market Mentality. In both excursions across cultures and across cults, what looks from the outside like superstition, ideology or supernatural belief, looks from a different perspective, the inside point of view, like an objective inquiry founded, not on supernatural principles, but rather on a different theory of natural law. What appears from the outside like a faith, a fiction, or a fantasy comes to feel from the inside like a rational enterprise. Certain readings in history can have the same effect; they challenge any easy contrast between science and religion, reason and superstition, objectivity and subjectivity, between what's seen and what's unseen, what's real and what's unreal.

Cornelius Loos had a hard time getting his book published in 1592. The thesis of the book was that the devil did not exist, that there were no such things as witches, and that all those confessions by women throughout Europe stating that they had flown through the night to an orgiastic Black Sabbath were nothing more than products of their imagination. Loos's book was never published; instead he was widely viewed as an enemy of reason and was denounced, imprisoned, and forced to recant. It is sobering to read Trevor-Roper's brilliant account "The European Witch-Craze of the Sixteenth and Seventeenth Centuries" (1967). For one comes away feeling that it was the promoters of the witch-hunts and the witch-burnings who were the guardians of reason and science,

while it was the skeptics who seemed to shy away from the reasonable implications of their own conceptual reference points.

Widely accepted during those two hundred years, one conceptual reference point of the time was that the devil, fallen from heaven, had established his own kingdom and that the Church was engaged in a mortal struggle against Satan's attempts to regain his lost empire. Rational inquiry was not necessarily incompatible with belief in the "doctrine of the kingdom of Satan"; and as Trevor-Roper documents, many of the promoters of witch-hunts were the leading intellectuals of their time, who knew all about the canons of scientific objectivity and logical consistency and applied them to the evidence at hand. A powerful scientific case was developed in defense of the witch-hunts.

The evidence at hand was a corpus of detailed confessions by women all over Europe, which was scrutinized for its objectivity. Confessions in Scotland were found to converge with confessions in distant Prussia, and certain common themes were identified: a secret pact with the devil to help him recover hegemony, anointment with the fat of a murdered child (so-called devil's grease), an aerial night journey to a sabbath ground, worship of the devil, dancing, macabre music, cold and tasteless food, and a promiscuous sexual orgy. Aware of the seriousness of a witchcraft accusation, some defenders of the witch-hunts examined the alternative "subjectivist" hypothesis and dismissed it; for if the confessions were all delusions, induced by some subjective state like melancholia, then why should there be such convergence in reported accounts from all corners of Europe? The consistencies or common elements in the stories of confessed witches, stories from women who spoke different languages and came from different countries, lent credence to the accounts.

Some defenders of the witch-hunts also entertained the alternative "method effect" hypothesis and dismissed it. The skeptics had argued that the common elements in the confessions of witches could be explained by reference to the use by inquisitors of certain standard leading questions and techniques of torture. Skeptics argued that it was the identity of the elicitation procedures, not the identity of the experience with the devil, that explained the similarities in the contents of the confessions. Upon examination, the skeptics turned out to be wrong. Many confessions were voluntary, torture was not used in every country, and even without leading questions the same story unfolded: a pact with the devil, a night flight, a Black Sabbath.

In the face of this onslaught of reason and evidence, the skeptics remained for two centuries on the defensive. For two hundred years, the best they could do was advance some wildly speculative claims about the living conditions of the devil (for example, that he had been locked up in hell and could not possibly intervene in human affairs) or else about methodological and procedural issues like the cruelty of torture or the possibility that some innocent people might be convicted. As Trevor-Roper notes, "To the last the most radical argument against the witch-craze was not that witches do not exist, not even that the pact with Satan is impossible, but simply that the judges err in the identification" (1967, 149).

"Malpractice" claims of that sort do not pose a serious threat to the underlying rationality of an ideological region, for they presuppose the conceptual reference points in question. A case in point is reported in *Sudan Notes and Records* (1920, 245-59). Parents and villagers in a Nubian district of Sudan stand by and watch a female child cease to live while a native healer, by lashing, beating, and choking tries to cast out of the girl a possessing devil, a "jinn." At the subsequent trial, the healer claims to have been contacted in a dream and empowered to use his *tampura* (a mandolinlike instrument) to drive out afflicting demons: "Each devil has its special note. When it is struck the devil speaks, and makes his demands for what he wants, which has to be provided by the friends of the patient, when he is satisfied and leaves the patient." The healer claims that in this case, the devil's requests were refused by the family, and when that happens, the jinn is likely to "break the neck of the afflicted person." The healer claims to have entered into physical battle with the demon in the girl's body. "My jinn and her jinn entered on a struggle for mastery. Mine in me was throttling hers in her and vice versa. . . . Her jinn overcame my jinn. . . . Hers killed her because its demands were refused. Mine would do the same to me if I refused its demands."

At the trial, it is apparent that for the Nubians involved, if not the colonial court, this is a potential case of malpractice, which is understood by the participants within the framework of a well-established Islamic theory of satanic beings that no one has reason to doubt. Appearing as a witness is another native healer, a woman, who had originally been consulted by the dead girl's parents: "Azab and Medim brought me their daughter and stayed two nights. Then I told them I could not put her right. They were no ordinary devils (*dsā'ir*) but malicious jinns who had made her make water on my bed clothes." And the witness tells the court that when the ac-

cused healer first appeared on the scene and started beating the girl, the witness had said to the girl's father, "There is no medicine for jinns; if you are going to have treatment of this kind [beatings] take her away from my zariba." The witness also reveals that, at the time, the accused healer had told her that the devil was a foreign Christian devil that the witness did not know how to treat.

The father of the girl is cross-examined by the court: "Why did you not stop this cruel treatment?" The father replies, "He told me it would effect a cure and I believed him." A farmer, who observed the beatings, is examined: "How could you stand there and see a girl throttled?" He replies, "It was our ignorance. . . . [The healer] said, 'Don't say anything. The more you object the more you encourage devils and handicap me.'" The farmer reveals that he himself had tried to tell the healer that if he wanted to drive out devils, there was a way of writing holy passages and a way of smoking demons out of the body. (For a detailed ethnographic account of Islamic theories of satanic beings and jinns, and also of various contemporary South Asian conceptions of illness and therapeutic practice, see Kakar 1982).

A striking feature of the trial is that while objections are raised about the competence of the healer, his particular diagnosis, and the procedures used, Nubian theories of illness and cure left open the possibility, and no rational Nubian had reason to doubt, that the girl might have been possessed by a spirit—just as no rational European in the sixteenth and seventeenth centuries could coherently or credibly raise doubts about the existence of the devil (if God exists then so must the devil). When in 1592 Cornelius Loos tried to raise such skeptical doubts, he was punished as a reckless enemy of reason and forced to recant.

A comparable situation today might be that of an evolutionary biologist trying to prevail upon the secular academic community that the evolution of biological forms does not occur by a process of natural selection. He might, for example, try pointing to the lack of "transitional forms" in the fossil record or to the difficulty of plausibly explaining how highly integrated biological systems or subsystems—which, please note, require complex integration among diverse parts to function at all—could exist in incomplete transitional states or be the product of a piecemeal, intermittent, or random process. One imagines the biologist suggesting that the facts of natural history are not inconsistent with the idea that all that neatly organized yet increasing complexity is the product of invention and foresight and that it is high time to start searching for a

possible designer of biological organisms—perhaps a visitor from another galaxy. One wonders what sort of reception this would receive from colleagues!

Anthropologists are sometimes accused of being "soft on superstition"; of refusing to say of those peoples of the world who believe in witches, ghosts, jinn, dreams, transmigrating souls, and visitors from distant worlds that they are deluded, wrong, confused, irrational, or misinformed; of refusing to interpret intellectual change as the history of a never-ending battle between reason and superstition. Like most half-truths, the accusation is wrong but not entirely misguided. What is wrong with the accusation is that anthropologists, like most other people, hold deep convictions about what's fantasy and what's reality, what's subjective and what's objective, what comes from inside the skin and what comes from outside the skin, what's part of the experience or representation of a thing and what's the thing itself (as seen from "nowhere in particular," Nagel 1979). At least for some anthropologists, those convictions have a decisive influence on their analyses of alien beliefs.

Murdock, for example, sounding somewhat like Cornelius Loos, expresses a now common twentieth-century view:

There are, for example, no such things as souls, or demons, and such mental constructs as Jehovah are as fictitious as those of Superman or Santa Claus. Neither ghosts nor gods exert the slightest influence on men and their behavior. But men can and do influence the behavior of one another, and the ideas they hold can have a serious bearing on how they behave. The Crusades, the Inquisition, and Hitler's "holocaust" illustrate, not strictly the power of ideas, but the influence that can be exerted by men who hold particular ideas. (1980, 54)

The point is forcefully reiterated by Schneider: at least when it comes to the question of the existence of demons and ghosts, there is agreement between Schneider and Murdock:

There is no supernatural. Ghosts do not exist. Spirits do not in fact make storms, cause winds, bring illness or effect cures. The gods in the heavens do not really make the stars go around, and neither do they decide each man's fate at his birth. Since there are no real ghosts, spirits, gods, and goddesses, it follows logically (as Durkheim showed so clearly) that their real and true nature cannot decisively shape man's beliefs about them or the social institutions related to them. Man's beliefs about ghosts and spirits must be wholly formed by man himself. Whatever unity there is to man's

beliefs about the supernatural derives, therefore, from the nature of man himself and not from the nature of the supernatural. (1965, 85–86)

Schneider, in later writings, sharply distinguishes between the question of the reality of ghosts as "cultural constructs" (as elements in what Freud would have referred to as "thought-reality" or "psychical reality") and the question of the reality of ghosts as elements in external or physical reality (1968, 2–3). Although claiming that "a good deal of empirical testing" has proved that ghosts do not exist in external reality, he argues that the question of whether one can actually go out and capture a ghost is irrelevant for understanding the meaning and significance of ghosts as constructs in the psychic reality of the native. He argues for a "symbolic" interpretation of cultural constructs.

Spiro, however, raises an important objection to Schneider's attempt to totally separate the meaning of cultural constructs from the question of their existence in external reality (Spiro 1982, 53–54, 63; Spiro 1984). He points out that a primary meaning of religious constructs as cultural constructs is that they are thought by the native to represent external reality, and the beings and entities of religion—ghosts, spirits, goddesses—are thought by the native to exist independently of psychic reality. The native who believes in spirits is hardly indifferent to such external-reality oriented questions as What makes spirits angry? Can they invade a person's body? How can invading spirits be exorcised? And those people who believed in the kingdom of Satan did go out hunting for witches and roasted them alive when they found them. Pressing forth a logic implicit in Schneider's own earlier Durkheimian analysis, Spiro argues that it is precisely because ghosts, spirits, and goddesses do not in fact exist except as cultural constructs that the main significance of religious beliefs is that they are delusional systems like dreams and other hallucinations, in which "stimuli originating in the inner world are taken as objects and events in the outer world." He tries to explain these delusional ideas in terms of irrational motives and childhood wishes and fantasies concerning dependency on superior beings—parental figures.

I think it is somewhere around there in the argument, with the conclusion that religion is fantasy confused with reality, that some anthropologists turn "soft on superstition." The reason is not that the world is free of delusion, ignorance, confusion, irrationality, or error; there's plenty of that around (see, for examples, Tversky & Kahneman 1974; Shweder 1977, 1980; Nisbett & Ross 1980; Spiro

1983, 1984). One reason they turn soft is the suspicion, well-expressed by Horton, that the goals of "religious thought" may not be unlike the goals of scientific thought "to explain and influence the workings of one's everyday world by discovering the constant principles that underlie the apparent chaos and flux of sensory experience" (Horton [1964] 1979, 250). The doctrine of the kingdom of Satan provided people in the sixteenth and seventeenth centuries with a powerful explanation of illness and suffering, and as noted earlier, the doctrine was constantly being tested against "reality." It is conceivable that the sense of objectivity invested in religious beliefs is not fundamentally different from the sense of objectivity invested in scientific beliefs, and that to describe other peoples' beliefs as religious or supernatural and our own as scientific is merely to disguise a prejudice in favor of our own conception of natural law over theirs. This is perhaps not unlike what goes on when a radical behaviorist dismisses the entities and forces of psychoanalysis, or when a classical economist finds it difficult to see anything of value in the Marxist account of social formations. Why is it that only other people have ideologies or supernatural beliefs?

A second reason that some anthropologists are soft on superstition has to do with the fascinating distribution of some so-called superstitious beliefs around the world. Murdock (1980), for example, has examined the distribution of theories about the causes of illness across a worldwide sample of 139 societies. He discovered that there are very few societies in the world where the causal categories of Western medical science (infection, stress, organic deterioration, accident, etc.) are thought to provide important explanations for illness; and he discovered that those causal categories that are thought to be important (for example, sorcery, witchcraft, soul loss, retribution for violation of moral injunctions) cluster in six broad geographical regions and remain relatively constant across societies belonging to the same linguistic families. Thus, for example, explanations of illness by reference to a special class of people called witches who are endowed with the propensity and power for evil predominate among those in the circum-Mediterranean region of the world (including the descendants of those sixteenth- and seventeenth-century promoters of witch-hunts) and among the speakers of three large linguistic phyla (including the Indo-European languages), while in sub-Saharan Africa (not including Sudan), the same illness event is most likely to be explained as nature's punishment for the violation of a taboo, and not by reference to a witch.

The existence of geographically contiguous and linguistically

bounded "ideological regions" of the type discovered by Murdock suggests the diffusion through communication and contact of a conceptual scheme or theoretical point of view. Given the existence of such broad regions of perception, it becomes increasingly difficult to argue that ideas such as "witches cause illness" are the product of irrational or delusional processes, for what we know about the worldwide distribution of irrational and delusional processes, which admittedly is not very much, does not suggest a distribution paralleling linguistic phyla or such vast areas as the circum-Mediterranean or sub-Saharan Africa. Some irrational processes may well be universal (Tversky & Kahneman 1973; Shweder 1977; Kahneman, Slovic & Tversky 1982). Other irrational processes seem to be generated within the context of a family or even perhaps a whole society (Whiting 1977; Spiro 1965, 1983). What seems unlikely and implausible is that irrational or delusional processes cluster around geographical regions and linguistic phyla, especially since the societies within each of Murdock's ideological regions differ from each other in terms of exactly those factors that might be expected to explain the occurrence of irrational thoughts; that is, they differ in family organization, educational institutions, child-training practices, and so on. As Murdock, Wilson, and Frederick argue, if irrational or delusional processes were primarily responsible for the genesis of such beliefs as the kingdom of Satan, then "one would expect considerably more diversity than actually occurs among the societies of a region and considerably less average difference between regions" (1978, 457). In fact, they advance that criticism against the well-known and important hypothesis of Whiting and Child (1953) that child-training practices create irrational response tendencies in children that later give rise, through defensive projection, to illusory theories about the causes of illness. Within any one ideological region, as Murdock and his associates note, cultures with variant child-training practices seem to adopt similar theories of illness.

We seem to have carved out for ourselves a rather unfortunate set of choices. One is to argue, along with Murdock, Schneider, and Spiro, that the things to which ghosts, souls, witches, and demons refer do not exist, that ghosts and souls exist solely as elements in psychic reality, and that the idea of a ghost or a soul is totally subjective. The problem is that to argue this way is to transform religious concepts into either "symbols" (Schneider) or "delusions" (Spiro), despite the fact that the native does not use his idea of a witch or demon as though it were arbitrary, conventional, or a

marker of something else; nor does he apply his ideas irrationally. The only alternative seems to be to argue that religious concepts are objective. But to argue that way is to risk the reception received by Cornelius Loos—to be branded an enemy of reason, denounced and forced to recant: "Do you really think ghosts exist?"

Faced with two unacceptable alternatives, one can only reject them both. I want to argue that ghosts, spirits, demons, witches, souls, and other so-called religious or supernatural concepts are, in some important sense, real and objective, and that if we understood the meaning of those concepts properly and learned how to apply them to experience, we would see that there exist things to which ghosts, demons, witches, and souls refer, things that can be interpreted using those concepts. However, I want to add quickly that to speak of those concepts as real and objective is to raise the question, In what sense are they real and objective, and how is that sense to be described? Certainly not, I shall argue, by radically opposing subjectivity to objectivity.

Spiro is undoubtedly right. A remarkable feature of the entities of religious thought is that they are thought to be external, objective, and real. But, it seems to me, it is precisely that feature that marks a point of strong resemblance with scientific concepts, for one of the features of scientific thinking is that "representations" of reality are typically treated as though they were real, and unseen ideas and constructs are not only used to help interpret what is seen but are presumed to exist externally, behind or within that small piece of reality that can be seen. Indeed, it seems to me worth considering the possibility raised by Horton (1967) that religious thinking is a variety of scientific thinking and that both inevitably require leaps beyond the evidence at hand to a world of imagined entities whose postulated existence is used to make sense of that which meets the senses.

Kuhn, in his moderate postscript to *The Structure of Scientific Revolutions* (1970, 206–7), makes an indirect case for the similarity of religion and science by distinguishing between the "ontological development" of a theory (the types of things, entities, or forces postulated by a theory) and its "instrumental development." What Kuhn argues is that as an instrument for puzzle solving, Einstein's theory of relativity is superior to Newton's mechanics, which in turn is superior to Aristotle's physics. But he goes on to remark, "I can see in their succession no coherent direction of ontological development. On the contrary, in some important respects, though by no means in all, Einstein's general theory of relativity is closer to

Aristotle's than either of them is to Newton's." Kuhn abandons the idea of "correspondence with reality" as a criterion for judging the progress of a scientific theory: "There is, I think, no theory-independent way to reconstruct phrases like 'really there'; the notion of a match between the ontology of a theory and its 'real' counterpart in nature now seems to me illusive in principle." The rub here seems to be that the mind has no way of getting beyond the skin. Thus, any ideas we might have about what is hidden, "two steps removed," so to speak, behind an external world of objects and events is highly inferential, even conjectural. It becomes impossible, in principle, to separate what is mind and what is reality, to say how things would look from "nowhere in particular," or to guarantee that all minds will conjecture in the same way or that any one description of what is out there is the only way to make sense of that which arrives at the surface of the skin. (For a critique of the idea that theories can be judged by reference to their "correspondence with reality," see Goodman 1968, 1984; Putnam 1981; also Gergen, chap. 6, this volume.)

Hesse makes a cognate point about the divergences in thinking in modern physics. She points out that the description of real-world essences in modern physics has been neither cumulative nor convergent: "The succession of theories of the atom, and hence the fundamental nature of matter, for example, exhibits no convergence, but oscillates between continuity and discontinuity, field conceptions and particle conceptions, and even speculatively among different typologies of space" (1972, 281–82). It is hard to overlook here the analogy to "ideological regions" (is it witchcraft, transgression, or infection that causes illness?) and to the endemic diversity among social science schools of thought. More important, it is hard to overlook the implication that ontological diversity is not a mark of intellectual immaturity; nor is it necessarily an impediment to progress in a discipline. Indeed, it begins to seem as if, in the "mature sciences," where just like everywhere else there is no theory-independent way to determine what is really lurking out there, it is just as difficult to draw a sharp distinction between what is subjective or theory dependent and what is not; and in the mature sciences, just like everywhere else, there is more than one conceptual reference point from which to construe what unseen forces are really there.

Goodman, who has argued that the real world "is as many ways as it can be truly described," that "there is no such thing as *the way the world is*" (1968, 6), and that it is not meaningful to talk about

features of a world, as Goodman has argued (1984, 279), are creations of some version of it. Unfortunately, given our dominant mythic idealizations of science, the idea that all objects are subject dependent is not one we readily accept.

The mythic idealizations of science in our culture typically focus on the physical or natural sciences. It is the natural sciences that have an elevated position in our culture, and it is the physical world that is often taken as a model of the social world, not the other way around. More than a few social scientists are busy at work searching for a periodic table of social elements, many more have been fascinated by physical metaphors (forces, energy, mechanisms, computers, etc.), and the organization of knowledge in physics and chemistry (for example, the specification of automatic and highly general laws of nature) is often adopted as the ideal for social understanding. It is perhaps worth noting that modern physics, since at least the work of Niels Bohr, has moved away from mechanistic imagery and the idea of objective predetermination and toward what has aptly been labeled the physics of possibility, ambiguity, and uncertainty. It would seem that our mythic idealizations of science change quite slowly (see Matson 1964, 147-55).

Of course, in some non-Western cultures, it is quite the opposite (Fortes 1959; Smith 1961; Durkheim & Mauss 1963; Horton 1968; Pepper 1972). In those cultures, much of the intellectual action is in the area of social thought. The social order or human order is taken as a model for the natural order, and nature is personified and viewed as capable of being influenced through prayer, sacrifice and offerings, and righteous or heroic conduct. It is animism, not mechanism, that dominates the intellectual scene. But that is another story. The point I wish to make here is that the mythic idealization in our culture of the physical or natural sciences may have led us to draw an all-too-sharp contrast between what is hard and what is soft, between what is objective and what is subjective.

It is noteworthy that in our culture the term "natural" has come to be restricted to those disciplines that study physical things devoid of subjectivity. At least in the West, Mother Nature has lost her animus, and at least in recent times, animistic or, more accurately, human or subjective properties such as intentionality, belief, desire, meaning, feeling, self-awareness, value, and purpose have been actively driven out of the nature studied by those "natural sciences" from which many social scientists have drawn their ideas about what kinds of things are really real and really out there, and how to go about finding them. Today, in the received view, what

anything in particular existing apart from our "version" of it or our theoretical attempt to understand it, recommends for modern science, and for modern physics in particular, a policy of "judicious vacillation":

The physicist flits back and forth between a world of waves and a world of particles as suits his purpose. We usually think and work within one world-version at a time—hence Hilary Putnam's term 'internal realism'—but we shift from one to the other often. When we undertake to relate different versions, we introduce multiple worlds. When that becomes awkward we drop the worlds for the time being and consider only the versions. We are monists, pluralists and nihilists not quite as the wind blows but as befits the context. (1984, 278)

Adopting the philosopher's equivalent to the mythical role of the "trickster," seeking to embarrass our received categories and positions, Goodman puts it wryly: "One might say that there is only one world but this holds for each of the many worlds." To ask whether the knowledge one has permits or encourages useful encounters with the world may be quite separable from the assumption that the postulated forces and entities of one's theory exist independently of one's conceptual reference point (see Cartwright 1983).

The postulation of our own mental constructs as unseen external forces seems to be a central and perhaps indispensable feature of scientific thought. Horton aptly notes that to construct a scientific theory is to elaborate "a schema of forces or entities (of a limited number of kinds and governed by a limited number of general principles) operating 'behind' or 'within' the world of common-sense observation" (1967, 51). With the exception of a few radical and flawed attempts (like "operationalism") to eliminate everything unseen from a scientific discourse, Horton's definition seems to capture a characteristic feature of scientific thought. The difficulty here seems to be that the postulation of unseen forces or entities operating behind the world of our senses is an indispensable yet highly discretionary act of interpretation only weakly constrained by sense experience (see Gergen, chap. 6, this volume). If the "hard" data of experimental physics leave scientists free to choose between several different basic conceptions about the nature of matter, it hardly seems surprising that the facts about illness do not settle the question whether or not those who suffer are the victims of a witch. There is a soft side to all hard data, or perhaps the crucial point is that without the soft side there is no hard side. All

"is" has nothing to do with what "ought to be." Matters of fact are unrelated to matters of value. Particles in motion do not think, feel, or have intentions. While metaphorically speaking there may be natural "selection," Mother Nature does it without a purpose in mind. For the social sciences, the problem with this image of nature is that human beings do think, feel, intend, wish, desire, and believe, and one of the most characteristic things studied by social scientists is human subjectivity—mind, self, and emotions. Thus two questions inevitably arise: Is an objectivity-seeking science of subjectivity possible? Does an objectivity-seeking science necessarily presuppose a dehumanized conception of nature, a conception of knowledge free of subjective perspective, and an idea of "reality" independent of conceptual schemes?

The representation of scientific ideals in the natural-physical sciences has had an inordinate influence on thinking about the possibilities for a social science. There is one representation in particular that I have in mind. I am not sure where the representation originated, and it may be outdated and overworked, but it continues to have its influence, and the news that it is outdated has not yet arrived in all circles. In this idealization of scientific thinking, the key notion is "transcendent objectivity" (Nagel 1979): a world of objects devoid of subjective properties and a set of scientific methods and procedures free of subjective judgments for gaining knowledge of how those objects would appear if viewed from "nowhere in particular." Associated with this image of scientific ideals is an image of nature as a scene of objects and events displaying regular and automated, or mechanical, connections. There is also the idea that there are general procedures, techniques, and methods for discovering truths about nature, that a perspective-free (literal?) transcript of nature is, in principle, possible, and that if individual scientists systematically apply certain general knowledge production procedures for discovering truths about nature, there will slowly accumulate a complete, objective, and unified description of nature, the way it "really" is—and the way it is regular, automated, and lawlike.

That idealization of what science is like is widely invoked in discussions about the possibility of a social science, and it has provoked two reactions. Given this account of what science is about, some—let us call them "hermeneuticists" (Ricoeur 1970, 1974; Spence 1982)—would treat social science as a humanity, hang on to human subjectivity (emotions, beliefs, desires, values, etc.), but abandon the science. Others—let us call them "positivists"—would treat social

science as a physical-natural science, leave human subjectivity to the humanists, hermeneuticists, and common sense, and restrict the domain of social science inquiry to those nonsubjective social phenomena, for example, brain asymmetry, hormone regulation, demography, or visual perception, where automatic, lawlike connections can be discovered.

"Positivism" is a complex epithet in hermeneutic circles, and "hermeneutics" is a complex epithet among positivists. Yet hermeneuticists and positivists share more than reciprocal insults. They share that idealized, and perhaps outmoded, conception of objective science in which there is no place for a science of subjectivity. That conception can be crudely reiterated by reference to what I shall call "the standard dichotomies," a parallel series of oppositions beginning with the opposition between the objective versus the subjective and ending with the opposition between the natural sciences versus the humanities. The series runs as follows: objective versus subjective, seen versus unseen, outer versus inner, public versus private, controlled versus free, reliable versus unreliable, systematic versus unsystematic, automatic (mechanical) versus willed (purposive), explanation versus understanding, prediction versus understanding, explained-by-reference-to-causal-law versus understood-by-reference-to-intentions, general versus context-specific, regular versus irregular, discovered versus constructed, value-free versus value-saturated, formal versus informal, materialist versus idealist, one versus many, instrumental versus symbolic, motion versus action, science versus humanity.

Both reactions, the hermeneutic and the positivist, signal an end to social inquiry as we know it. From the perspective of the hermeneuticist and positivist, there are only two kinds of things in the world: subjectivity devoid of matter (culture) and matter devoid of subjectivity (nature). The first is the realm of the humanist. The second is the realm of the natural scientist. There is no third realm.

There is, however, a third reaction to that idealization of objective science discussed earlier. I will call it the science-of-subjectivity reaction, even though the expression "science of subjectivity" is a contradiction in terms from the perspective of either hermeneutics or positivism. The basic idea is that we must revise our conception of ideal scientific practice and our conception of the relationship between nature and culture, objectivity and subjectivity. The idea is that as we have learned more from historians and historically oriented philosophers about the actual workings of science (Kuhn 1970; Feyereabend 1975; Lakatos 1970; Hesse 1972, 1980; Barnes

ions. Deductive logic is valued because it is the mind's device for preserving those truths and generating their logical implications. Thinking not guided by inductive or deductive logic is viewed as nonrational and unlikely to result in a reliable and valid picture of the object world.

The positivist conception of rational thought is probably too narrow for a science of subjectivity. We certainly would not want to do without inductive and deductive logic; they are our precious inheritance. Nevertheless, inductive and deductive logic cannot account for every example of systematic, constrained thinking, and there are many examples of impersonal constraints that are not logical rules—not the least of which are the rules of language. Consider a type of example analyzed by Paul Grice (1975) and cited by George Miller (1981). Rick says to Don, "I have a headache. Do you have an aspirin?" Don says to Rick, "There's a store around the corner." Hearing that exchange of words, most competent speakers of English feel that Rick "must" conclude that "the store around the corner sells aspirin" and "the store around the corner is open." It's what any rational person would conclude. Yet this is not a case of logical implication. As Grice and Miller point out, there is no way that "Rick needs an aspirin and there is a store around the corner" can logically imply "the store around the corner sells aspirin" and "the store around the corner is open." Still, that is what we "must" conclude. Grice calls the "must" a conversational implicature instead of a logical implication. He posits that there are systematic, general, rational, but nonlogical rules that constrain our conversation. One rule of conversation is "make what you say relevant." Such nonlogical constraints have also been called "pragmatic implications."

The positivist-hermeneutic conception of rationality has strained under the weight of evidence from research on pragmatic implications.

Our alternatives seem to be these: Either (1) we deny that there is any rational (logical, grammatical) constraint over the "pragmatic implications" of what we say—or perhaps deny that there are any implications, on the ground that the relation in question is not deductive . . . ; or else (2) we admit the constraint and say either (a) since all necessity is logical, the "pragmatic implications" of our utterance are (quasi-) logical implications; with or without adding (b) since the "pragmatic implications" cannot be construed in terms of deductive logic, there must be some "third sort" of logic; or we say (c) some necessity is not logical. (Cavell 1969, 10)

1973; Hanson 1958), objectivity-seeking science has come to seem inherently subject dependent. And, as we have learned more from linguists, sociologists, anthropologists, and psychologists about the workings of human subjectivity, including the organization of lexical meanings (Berlin & Kay 1969), folk beliefs (Sahlins 1976; D'Andrade 1976), emotional response (Osgood, May & Miron 1975), and everyday inferencing (Tversky & Kahneman 1974; Kahneman, Slovic & Tversky 1982), human subjectivity has come to seem more objectlike than imagined. The real world, it seems, is populated with subject-dependent objects and objectlike subjectivity, two types of phenomena for which there is no place in the mutually exclusive and exhaustive realms of the symbol-and-meaning-seeking hermeneutic and the automated-law-seeking positivist. From the point of view of the science of subjectivity, there is no neat boundary line separating these two realms. Subjective phenomena can be studied objectively, and objective study always extends beyond the evidence in hand to the unseen and is never free of a subjective perspective. Thus, for example, the contents of subjectivity can be thought of as causes, and causes need not be widely generalized to be lawlike, although they may be. As Edelson remarks, "Not all hypotheses of interest to a scientist are universal generalizations (1984, 28). From the perspective of a science of subjectivity, knowing what follows what in the world of physical objects is not fundamentally different from knowing what follows what in the world of semantic objects (Hesse 1972) or from determining the patterns and constraints that constitute such phenomena as "natural" languages, which are objective and subjective at the same time.³ An important implication of this deliberate blurring of the boundaries between objectivity and subjectivity is that other conceptions that rest on a neat and clean contrast between what's objective and what's subjective ought to be revised, which means, to say the least, we may have to rethink for a bit our conception of "rationality" and our conception of "meaning."

A science of subjectivity requires a broadened conception of rationality. Within the positivist idealization of science, rational thinking is equated with deductive logic (syllogistic reasoning, the predicate calculus) and inductive logic (Mill's principles of experimental reasoning, Bayes's principles of statistical inference, etc.). In the positivist's quest for transcendent objectivity and a literal transcript of nature, the rational mind seeks to "mirror" the object world and the lawlike connections among objects (Rorty 1979). Inductive logic is valued because it is the mind's device for detecting true connec-

I think what we have come to realize is that if rational thought is restricted to inductive and deductive logic, we will have very little of a rational sort to say to each other. No presuppositions. No analogies. No semantic or pragmatic implications. As Miller puts it, "Strictly speaking, formal logic cannot even go from 'Fido is a poodle' to 'Fido is a dog,' because the relation between these sentences depends on their meaning, not their form. Logic can go from 'All poodles are dogs' and 'Fido is a poodle' to 'Fido is a dog,' but it makes for dull conversation" (1981, 136). Yet if rational thought requires a "third sort" of logic or a nonlogical necessity, it is not the kind of constraint that anchors us to a unitary external world of objects. It is more like the kind of thing that makes it possible for two Marxists, two psychoanalysts, two radical behaviorists, two Muslim fundamentalists to have rational discussions within their respective versions of reality but not across them. Rationality seems to have that peculiar bounded quality; it requires deductive and inductive logic, but deductive and inductive reasoning goes on within the framework of a third sort of logic that is bound to something neither uniform nor unitary. What we seem to need is a concept of divergent rationality.

In defining the concept "divergent rationality," it is useful to consider a minitaxonomy of the processes underlying subjective experience. These processes can be grouped in a rough-and-ready way into those that are rational, nonrational, and irrational. A rational process is a self-regulating process controlled by, or at least guided by, impersonal criteria, reason, and evidence. It can be distinguished, on the one hand, from nonrational processes, where reason and evidence are irrelevant to subjective experience. The processes that account for tastes, preferences, likes or dislikes in food are prototypical examples of nonrational processes. On the other hand, rational processes can be distinguished from irrational processes, where there is a breakdown or degradation of the capacities that support rationality. Examples from our own culture include the loss of voluntary control, the failure to distinguish self from other or to discriminate past, present, and future.

Some rational processes are universally distributed across our species. As far as we know, all peoples respect certain elementary logical principles (negation, the law of the excluded middle) and adopt certain common patterns of hypothetical reasoning, means-ends analysis, causal analysis, and experimental reasoning. Things that vary together are connected by the human mind. So are things that are contiguous in time and space, and so on.

At the same time, there are certain rational processes that are not universal. These include, for example, the presuppositions and premises from which a person reasons; the metaphors, analogies, and models used for generating explanations; the categories or classifications used for partitioning objects and events into kinds; and the types of evidence that are viewed as authoritative—intuition, introspection, external observation, mediation, scriptural evidence, evidence from seers, monks, prophets, or elders. The version of reality we construct is a product of both the universal and the nonuniversal rational processes, but it is because not all rational processes are universal that we need a concept of divergent rationality.

For example, there are several hundred million people in that "ideological region" known as South Asia who believe in the transmigration of the soul and the continuity of identity across lifetimes (see Seweder 1985). Let us try to step inside their world for a moment. Perhaps one reason for the near universal acceptance of the idea of the soul is that it helps conceptualize the intuitive experience of what we in our secular culture call the "self," that direct contact we all have with our own "observing ego." In South Asia, among Hindus, that observing ego is conceptualized as a soul or spirit, and all sorts of searching questions are asked about where it came from, where it's going, and why it is now occupying the body it happens to occupy (Sivananda 1979). It is at this point in the reflective process that the concept of a reincarnating soul is postulated to exist behind or within experience, and the concept is used to explain or make sense of various facts of life.

Sevenson (1977) has itemized some of the facts of life that can be explained with the concept of reincarnation and the idea of the identity of the soul (self) across lifetimes, and I have added to his list other facts that call out for explanation. The explanation by reference to reincarnation is especially powerful for those who are willing to accept as evidence the pervasive intuitive experience of one's own observing ego and for those who have already adopted a conceptual reference point from which souls exist, for whom reincarnation and the transmission of prior experiences across lifetimes is at least a theoretical possibility. Fact: Identical twins reared together not infrequently display marked differences in personality; for example, one but not the other may become schizophrenic. Fact: The personalities of siblings who grow up in the same family are no more similar to each other than random pairs of people drawn from different families. Fact: Children often have