THE PRAGMATIC ORIGINS OF SYMBOLIC INTERACTIONISM AND THE CRISIS OF CLASSICAL SCIENCE

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ABSTRACT

This paper examines the continuities between pragmatist philosophy and interactionist sociology. Its central thesis is that twentieth-century pragmatism and symbolic interactionism represented a revolt against classical rationalism and marked an early attempt at assimilating the nonclassical ideas of modern science. The relativist premises of pragmatist and interactionist thinkers are evident in their assumptions that the active self is central to the understanding of the world's meaningful structure, that any statement of fact must indicate the practical context within which the fact is established, that indeterminacy is endemic to objective reality, and that pattern and structure are best understood as events or emergent processes. An argument is made that concerted efforts are needed to establish symbolic interactionism as the sociological counterpart of nonclassical, relativist science.
Every scientific paradigm, according to Thomas Kuhn (1970, pp. 83, 184), derives its conceptual structure from a certain metaphysics. This is clearly evident in the case of symbolic interactionism. The far-reaching elective affinity between the philosophical, methodological, and ideological premises of pragmatism and interactionism has been acknowledged by many researchers (Carey 1975; Faris 1970; Faught 1981; Hall 1972; Huber 1973; Joas 1985; Lewis 1976; Lewis and Smith 1980; Petras 1968; Shalin 1986a). No less important, though far less appreciated, is the fact that pragmatism served as a conduit of nonclassical ideas in symbolic interactionism. Indeed, wittingly and unwittingly, interactionists inherited from their pragmatist colleagues the epistemological principles and substantive concerns inimical to the postulates of classical science. The purpose of the present paper is to examine the epistemological unity of pragmatist/interactionist thought on the one hand, and nonclassical ideas of modern science on the other. Its central premise is that twentieth-century pragmatism and interactionism represented a revolt against classical rationalism and constituted an early attempt at assimilating nonclassical ideas of modern science.

A few words on the meaning of “pragmatism” and “interactionism” as used in this paper are in order here. Neither term refers to a body of canonical writings and agreed upon precepts which established beyond reasonable doubt a particular writer or idea as bona fide “pragmatist” or “interactionist.” Each movement has been marked by considerable diversity, harboring notoriously incongruous authors and concepts. Lovejoy once discerned thirteen kinds of pragmatism. Schiller (1927) argued that there may be as many pragmatisms as pragmatists. More recently, Denzin (1988) distinguished six versions of pragmatism, including Peirce’s consequentialism, Dewey’s instrumentalism, James’s emphasis on subjective meaning, Tolman, Hull and Skinner’s operationalism, Quine’s empiricism, and Rorty’s neo-pragmatism. The diversity may be less dazzling among interactionists, but it is certainly not a monolithic movement, as a recent controversy would readily testify (Johnson and Schifflett 1981; Lewis and Smith 1980; Stewart 1981). The present paper will highlight certain tensions endemic to pragmatist and interactionist thought, even though its main focus is on what brings the thinkers identified with each movement together, rather than on what draws them apart. Pragmatism is understood here as a humanistic movement in philosophy whose proponents sought to undercut the extremes of classical rationalism through the renewed emphasis on the role played by humans in the production of reality as objective and meaningful. Correlatively, interactionism is seen as a humanistic movement in sociology which juxtaposes to the classical notion of social reality as a given and inherently structured the generative view of society as an emergent process continuously produced by human beings. This shared emphasis on human agency as an inalienable part of objective reality, it will be argued, accounts for the cross-fertilization between philosophical pragmatism and sociological interactionism.
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PRAGMATISM AND SCIENTIFIC INQUIRY

There is a powerful metaphor that recurs in the writings of Arthur Eddington, a physicist with an unusual sensitivity to the philosophical implications of modern physics—the metaphor of physicist as sculptor. What makes it interesting for the task at hand is that it is also one of the favorite metaphors of pragmatist thinkers.

Just as a sculptor separates the rough block of marble into a bust and a heap of chips, so the physicist separates the irregular wave disturbance into a simple harmonic green wave and a scrap heap of other components. In Fourier and other recognized methods of analysis, physics allows and practices the splitting of form into components. It allows us to select a form which we ourselves have prescribed, and treat the rest as contamination.... In every physical laboratory we see ingenuously devised tools for executing the work of sculpture, according to the designs of the theoretical physicist. Some time the tool slips and carves off an odd-shaped form which we had not expected. Then we have a new experimental discovery (Eddington 1939, p. 111).

In the field of sensation our minds exert a certain arbitrary choice. By our inclusions and omissions we trace the field’s extent; by our emphasis we mark its foreground and its background; by our order we read it in this direction and that. We receive in short the block of marble, but we carve the statue ourselves.... Other sculptors, other statues from the same stone! Other minds, other worlds from the same monotonous and inexpressive chaos! My world is but one in a million, alike embedded, alike real to those who may abstract them (James [1907] 1955, p. 161, and [1890] 1950, vol. 1, p. 289).

At the root of this metaphor is the image of man-the-maker actively molding reality into a definite shape. The product of man’s activity—the world as objective and meaningful—is “carved out” by individuals, who have a choice to make, a world to produce. The world around us may well appear to its producers as a thing in itself subsisting all on its own, but the responsibility for its historically specific form ultimately rests with individuals. For objective reality is not something “ready made and complete from all eternity” but the world that is “still in the making” (James [1907] 1955, p. 167).

This whole mode of reasoning contrasts sharply with the mechanistic worldview which dominated the Western world since the seventeenth century (Burtt 1954; Matson 1964; Roszak 1972). The entire universe appeared here as a fine-tuned machine obeying natural laws waiting to be deciphered by scientists. To accomplish its task, scientific intelligence had to free itself from the biases cluttering perception and blocking the path to the divinely ordained order. The purgatory function was to be accomplished through Cartesian doubt. Spontaneous, universal, sparing nothing mundane, this doubt would lay absolutely certain foundations of knowledge which no further scholarship could overturn. This rationalist outlook was quintessentially dualistic, in that it split the universe into res extensa and res cogitans, the two antagonistic domains of mind and matter. True, the vast expanses of the mechanical world
were to be conquered by the knower, but the act of knowing itself was deemed to be irrelevant to the kind of picture the knower could glean from the universe out there. The scientist was fundamentally a nonparticipant observer who had to minimize his contacts with real things, so as not to disturb their pristine qualities. This outlook was at the heart of Newtonian physics, with its supreme belief in the incorrigible properties of space and time, eternal laws governing the universe, and potentially limitless predictability. The success of classical mechanics reinforced the dualistic premise that scientific concepts express the indubitable ideas inherent in our mind and naturally attuned to things in themselves:

The notions of one Time and of One Space as single continuos receptacles; the distinction between thoughts and things, matter and mind; between permanent subjects and changing attributes ... proved of such sovereign use as denkmittel that they are now a part of the very structure of our mind. We cannot play fast and loose with them. No experience can upset them. On the contrary, they apperceive every experience and assign it to its place (James [1909] 1970, p. 62).

Herein lies the significance of nonclassical physics. At first the theory of relativity, and later quantum mechanics, cast a long shadow on the verities of classical rationalism and its dualistic assumptions. The progress in modern physics exposed the limiting tendency of classical thought to disregard man's role as an active self and thereby gave an added weight to the pragmatist attack on the dualism of the by-gone era. Pragmatists endeavored to bridge the gap between mind and matter, subject and object, order and chaos. Their quest for a synthesis of these classical polarities proceeded along different lines. Whereas the animus of Peirce's pragmatism was in naturalizing human consciousness, in showing that human interpretative activity is an extension of the natural symbolism of physical phenomena (Rochberg-Halton 1986), James's pragmatism was propelled by the desire to humanize physical nature, to demonstrate that its objective manifestations are inexorably tied to human action and spirit (Dooley 1974). When pushed to its logical extreme, each tack spells trouble. Peircean pragmatism results in a radical realism which narrows the scope of human imagination, creativity, and free will. James's point of attack underplays the role of objectivity and yields a peculiar form of subjectivism and nominalism. Dewey and Mead took a middle path between these two extremes, emphasizing the sociohistorical underpinnings of objectivity and at the same time reaffirming the role of novelty and individuality in the evolution of objective reality. Regardless of these differences, the attempt to humanize physical nature and to naturalize human consciousness pivotal for the pragmatist enterprise was of unquestioned significance, insofar as it marked the philosophical break with classical rationalism and foreshadowed later developments in natural science.
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In contrast to the clock-work-universe bereft of human thought and action, pragmatists envisioned "a world of reality within which the incomplete experience of the individual is an essential part of the process, in which it is not a fiction, destroying reality by its representation, but it is a growing point in that reality itself" (Mead 1964, pp. 188-189). The vital link between the world of mind and matter, according to pragmatism, was action, the constitutive activity of organized individuals, who must act in order to measure, to grasp, and ultimately to know. Human action is a double-edged phenomenon: it is an event in nature that binds the individual to other things, and it is also a fact of consciousness which organizes the world in the unique perspective of a particular actor. Action, therefore, is more than a bridge between two separate domains of mind and matter; it is their concrete, practically accomplished unity, which is why Mead (1938, p. 65) claimed that "the unit of existence is the act." Human action is both the antecedent of all cognitive activity and its natural outcome. Its starting point is not a spontaneous, self-induced and all-embracing skepticism that Descartes placed at the beginning of cognitive process, but as Peirce (1955, p. 10) argued, a concrete doubt of the knower confronted with a practical problem that needs to be solved and that sets in motion the process of inquiry. Whatever insight this inquiry affords, it is in the nature of belief, of a conviction on which humans can act:

And what, then, is belief? First, it is something we are aware of; second, it appeases the irritation of doubt; and third, it involves the establishment in our nature of a rule of action, or, say for short, a habit.... belief is a rule for action (Peirce 1955, p. 28).

All ideas, most signally those we call "scientific," had to be restated in the pragmatist perspective as guides for action aimed at producing certain consequences. This seemingly modest agenda had far-reaching implications, as the progress in relativist physics made abundantly clear. The case in point is the principle of simultaneity, or as relativist physicists would rather call it, "the unobservability of distant simultaneity" (Eddington 1939, p. 38). Classical scientists had no problem envisioning two distant sources of energy simultaneously emitting light. This simultaneity was deemed to be absolute, something that occurs in nature regardless of the observer's position or accounting techniques. For the modern physicist the statement of simultaneity has a decidedly different meaning. The beams of light from two distant sources are held to be simultaneous if, and only if, they reach the observer's reference frame at the same moment. There is simply no other practical way of gauging whether or not the phenomena occur at the same time. "Simultaneity of two distant events is, therefore, not an absolute property of the events, the same for all observers, but is relative to the observers" (Bridgman 1955, p. 136). Or as Mead would say, "what a thing is in nature depends not simply on what it is in itself, but also on the observer" (1929, p. 428). In analogous manner,
other physical phenomena—ether, energy, length, time, for example, once thought to be perfectly natural and absolute, came under close scrutiny and were shown to be dependent on the knower’s reference frame. Ultimately, all physical abstractions were redefined in relativist physics in operational, action-bound terms (Bridgman 1955). The result of this revision was a world vastly different from the one postulated by classical rationalism. It was a nonclassical world open to revision, whose ultimate shape was bound to remain perennially problematic:

... Progress beyond the Newtonian scheme was made possible when the ascription of antecedently existing inherent qualities was dropped out, and concepts were regarded as designations of operations to be performed (Dewey [1929] 1960, p. 191).

... Euclidean space ... is but a construction which has arisen and maintained itself because of its practical advantages, though we can draw no conclusions from these practical advantages to their metaphysical reality (Mead 1964, p. 82).

Even more dramatically than in relativist physics, “the ghost of the seventeenth-century epistemological separation of knowing subject and object known” had been exorcised in quantum mechanics (Dewey and Bentley 1949, p. 50). Heisenberg’s principle of uncertainty radically undercut long-standing efforts to read the subject completely out of the picture. For Galileo and Newton, the purpose of scientific investigation was to grasp things in themselves subsisting on their own apart from the knower and his accounting practices. This precept was at the root of what Born (1956, p. 124) called “the Newtonian style” in physics, which is based on the assumption that “the external world, the object of natural science, and we, the observing, measuring, calculating subjects, are perfectly separated, that there is a way of obtaining information without interfering with the phenomenon.” Modern microphysics furnished ample proof that the existence of a thing in itself as a meaningful object is inseparable from the process of objectivation. In modern inquiry, “no radical separation is made between that which is observed and the observer” (Dewey and Bentley 1949, p. 103). Put differently, reality is objective and meaningful insofar as it becomes an object of human activity:

... No sharp separation between object and subject can be maintained, since the perceiving subject also belongs to our mental content.... The new situation in physics has so forcibly reminded us of the old truth that we are both onlookers and actors in the great drama of existence (Bohr 1934, pp. 96, 119).

The atomic physicist has had to resign himself to the fact that his science ... cannot simply speak of nature in itself! Science always presupposes the existence of man and, as Bohr has said, we must become conscious of the fact that we are not merely observers but also actors on the stage of life (Heisenberg 1958, pp. 15-16).
In a similar fashion, quantum mechanics undermined the classical rationalism’s postulate of universal determinism. According to this postulate, all things are inherently structured and determinate; the failure to grasp their exact positions and predict their motion is simply a sign that our science has yet to mature. As the latter digs deeper and deeper into the natural causes of objective reality and provides ever more accurate descriptions of its properties, contingency and uncertainty gradually disappear. By contrast, modern physicists view indeterminacy as endemic to things; it is not something we can get around by ever more clever techniques but a fundamental mode of objective being, which can be terminated only temporarily, partially and practically. A margin of uncertainty in our descriptions of nature is to be accepted as a condition of knowledge:

... Heisenberg now makes it appear that nature abhors accuracy and precision above all things.... Loose-jointedness ... pervades the universe (Jeans 1930, pp. 28, 30).

Any measurement which aims at tracing the motions of the elementary particles introduces an unavoidable interference with the course of the phenomena and so introduces an element of uncertainty which is determined by the magnitude of the quantum of action (Bohr 1934, p. 11).

It is certain that our concepts are capable of adaptation to reality to a considerable extent, provided that we allow them a certain margin of indeterminacy.... Even in the most exact of all the natural sciences, in physics, the need for margins of indeterminateness has repeatedly become apparent ... (De Broglie 1937, p. 281).

Once again, we can see how the insights furnished by modern physics vindicate the principles enunciated by pragmatist philosophers. This is not to suggest that nonclassical physics had a direct impact on pragmatist philosophy. The two had developed quite independently from each other. The point is rather that the elective affinity between pragmatist philosophy and modern physics is not spurious: it marks the transition from the classical Age of the Machine to the nonclassical Age of Uncertainty.

From the very beginning, pragmatists rejected the view of cosmos as inherently structured and determined in and of itself. James ([1897] 1965, pp. 69, 292) extolled “the teeming and dramatic richness of the concrete world,” the fact that “real contingency and ambiguity may be features of the real world.” Dewey ([1929] 1960, p. 204) who hailed Heisenberg’s principle as “the final step in the dislodgement of the old spectator theory of knowledge” was fascinated with “the intrinsic troublesome and uncertain quality of situations” and urged that “every situation has vagueness attending it, as it shades off from a sharper focus into what is indefinite; for vagueness is added quality and not something objectionable except as it obstructs gaining an eventual object.” In Mead’s words, “Nature does not have an ordered character—everything that happens is not according to natural law.... Uncertainty does not belong simply...
to values, it belongs to the facts as well” (Mead papers b8, f1 and b7, f1).

“Heisenberg’s Principle of Indeterminacy,” wrote Schiller (1939, p. 183), “should be no paradox, but a welcome confirmation of a pragmatist notion of science, which takes on operational view of knowing.” Although Peirce, particularly at the latter stage of his intellectual career, fought against the tendency to subjectivize the results of scientific experience and talked about getting to “things in themselves,” he rejected the view of nature as obeying infallible laws in all its manifestations and scolded the traditional theory of inquiry because it “neglected the study of vagueness” (Peirce 1955, pp. 295-296).

Of all pragmatists, Dewey paid perhaps the closest attention to the notion of indeterminacy and its implications for philosophical analysis. The root of the problem, as he understood it, was that man is himself part of the system he sets out to study: “... Any view which holds that man is a part of nature, not outside it, will ... hold that indeterminacy in human experience, once experience is taken in the objective sense of interacting behavior and not as a private conceit added on to something totally alien to it, is evidence of some corresponding indeterminateness in the processes of nature within which man exists (acts) and out of which he arose” (Dewey 1946, p. 351). The message that Dewey extracted from the insights of quantum mechanics was that determinacy is an artifact, something the knower accomplishes by virtue of his being an active, conscious being. It is the subject who induces determinacy into the primordial chaos of things, albeit at the cost of suppressing potentialities, which could have come into being through alternative objectivations. An ordered universe is an accomplishment: it is brought into being by individuals practically and theoretically transforming the world of uncertainty into the world of law. This practical accomplishment is not something that takes place once in a while but an ongoing concern, a never-ending process that must be carried out as long as self-conscious human beings continue to exist as members of society.

A new outlook on structural phenomena is one more aspect of modern science that jibes well with pragmatist philosophy. For one thing, modern physicists abandoned the static outlook characteristic of their predecessors and proclaimed that process is prior to both structural givens and their individual components:

Each relatively autonomous and stable structure (e.g., an atomic particle) is to be understood not as something independently and permanently existent but rather as a product that has been formed in the whole flowing movement and that will ultimately dissolve back into this movement.... This view implies that flow is, in some sense, prior to that of the “things” that can be seen to form and dissolve in this flow.... Neither the point particle, nor the quasi-rigid body can be taken as primary concepts. Rather, these have to be expressed in terms of events and processes (Bohm 1980, pp. 11, 14, 123-124).
Nonclassical physics also undermined the tendency of classical rationalism to set sharply apart order and chaos, organization and disorganization. Members of the Brussels School in particular are responsible for the rehabilitation of chaos as a vital ingredient in understanding orderly processes. According to Ilya Prigogine (1980, p. 143), the leader of the School, “chaos gives rise to order.” What this means is that spontaneous deviation from the norm and a degree of looseness in the way parts fit each other are strategic properties of reality vitally involved in the reproduction and the evolutionary growth of complicated systems. In biological phenomena in particular, Prigogine observed, “dissipative processes” and “wild fluctuations” give rise to unpredictable, and in many cases superior forms of organization which defy customary assumptions and expectations:

In far-from-equilibrium conditions we may have transformation from disorder, from thermal chaos, into order. New dynamic states of matter can originate, states that reflect the interaction of a given system with its surroundings. We have called these structures dissipative structures to emphasize the constructive role of the dissipative processes in their formation. . . . Such systems seem to “hesitate” among various possible directions of evolution, and the famous law of large numbers in its usual sense breaks down. A small fluctuation may start an entirely new evolution that will drastically change the whole behavior of the macroscopic system. The analogy with social phenomena, even with history, is inescapable (Prigogine and Stengers 1984, pp. 12, 14).

Given these insights proffered by modern physics, we can better understand the pragmatist interest in the indeterminate, their contention that “the parts have a certain amount of loose play, so the laying down of one of them does not necessarily determine what the others shall be” (James [1897] 1956, p. 150). Pragmatists are often accused of ignoring patterned manifestations of reality and subjectivizing the notion of structure. This criticism misses the real import of pragmatist endeavor, namely, its proponents conscious attempt to redefine the classical notion of structure as emergent process, as something that can be fluid and stable at the same time. Said Whitehead (1926, p. 121), “an actual entity is at once a process, and is atomic,” “the stone . . . is a society of separate molecules in violent agitation” (Whitehead [1929] 1957, p. 121). The same idea was expressed by Dewey in this way: “Structure is constancy of means, of things used for consequences, not of things used by themselves or absolutely. Structure is . . . an evident order of changes. The isolation of structure from the changes whose stable ordering it is, renders it mysterious . . .” ([1929] 1957, p. 72). Similar insights one finds in Mead: “There is no changeless structure as such. Matter and mind are structures just like the Constitution of the U.S. They are structures only in process. . . . You cannot have a process without some sort of a structure; and yet the structure is simply something that expresses this process as it takes place” (Mead papers b7, f1; 1936, p. 164). This approach to structural phenomena is decidedly post-rationalist and nonclassical, in that
it does not grant to structure an ontological status of things in themselves, accentuating instead its function as a practically validated theoretical construct. Powerful as this construct might be, it should not be reified into an ethereal entity, subsisting on its own apart from the abstracting and meaning-giving skills of the knower. The elements that went into the formation of one structure could also be shown to belong to other structures, or as some pragmatists would rather have it, other "fields."

The message here is that we should be on guard against the tendency to petrify our abstractions, to see them as natural givens which humans are forced to accept because of their self-evident nature and sheer logical power, and with which they have nothing to do personally. Behind every structure one should learn to discern an a priori construct, a set of taken-for-granted assumptions, and a chain of tool-aided, practical actions which enable the subject to sever disparate elements from their various associations and bring them into a pattern. This precept throws into sharp relief the importance of subjectivity in our dealing with pattern and structure, though it does not necessarily imply subjectivism. It simply reminds us what modern physicists discovered in the early decades of this century, namely, that "the pattern is the very hallmark of subjectivity" (Eddington 1939, p. 67).

The criticism of classical inquiry in general and formal logical reasoning in particular is one more area where pragmatist philosophers joined issue with modern physicists, and where their stance ran contrary to the tenets of classical science. The latter drew too sharp a line between facts and theory, the former being accorded unqualified primacy and the latter seen as a series of abstractions to be fitted to available facts. For modern physicists, facts are technical abstractions, meaningless outside the context of a theory:

... As the Latin root of the word "facere" indicates, "the fact is what has been made" (e.g., as in "manufacture"). Thus, in central sense, we "make" the fact. That is to say, beginning with immediate perception of an actual situation, we develop a fact by giving it further order, form and structure with the aid of our theoretical concepts (Bohm 1980, p. 142).

Modern physicists also lost their faith in the laws of logic—the laws of identity, excluded middle and noncontradiction—as the laws of nature. Their practice forced them to reconsider these laws as approximations, useful idealizations which have their proper place in rational discourse, but whose function is to guide inquiry, not to dictate what the properties of reality should or should not be. "The narrowness of the simple logical patterns," urged Heisenberg (1958, pp. 171, 182), is well documented in quantum mechanics, which suggested that "classical logic" was only a "particular case" of the logic of quantum mechanics. Weismann (1959, pp. 150, 154) went even farther in its criticism of Aristotelian logic:
Quantum physics, I submit, presents a strong case against traditional logic, and believe in it as the only possible one has become a form of provincialism.... What we have before us is a conflict between logic and physics. If logic is right quantum theory must be wrong, and if quantum theory is right (in particular the uncertainty relation), then classical logic must be wrong (in particular the law of excluded middle).

Similar doubts about the applicability of formal logic to the world of modern physics can be found in De Broglie (1937), Weizsacker (1949), Eddington (1939), and Bridgman (1955). The offshoot of these direct encounters with the limits of formal logic was a newly found tolerance of ambiguity and respect for "multivalued logic" (Weizsacker 1949, p. 102), which dispensed with the law of excluded middle and recognized the need for the statements which are neither true nor false.

These developments in physics invite a closer look at the pragmatist writings on the nature of scientific inquiry and the limits of classical logic. Along with the modern physicists, pragmatists rejected the rhetoric of "bare facts" which speak for themselves:

[No] question of Fact ... can be raised without raising also the question of Value (Schiller [1903] 1969, p. 10).

Facts are not there to be picked out. They have to be dissected out, and the data are the most difficult of abstractions... (Mead 1938, p. 98).

The fact known is not the bare fact,... an existence implying no constructive activity of intelligence, but is an idealized fact, existence upon which the constructive intelligence has been at work (Dewey [1891] 1967, p. 126).

The function of scientific inquiry, according to pragmatists, is not simply to manipulate theoretical concepts until they fit the indubitable facts, but to offer guidance for generating the facts as theoretically meaningful data: "The important point then is to see that verification is a two-edged sword. It does not test and transform the 'idea,' the theory, any more than it tries and moulds the 'facts.' In other words, if the idea is tentative, needing to be brought before the court of facts, so also 'facts' are inadequate and more or less contradictory— that is, they are only apparently facts. They need therefore to be harmonized and rendered significant through the idea, the hypothesis" (Dewey 1890, p. 88).

The role of logic, according to pragmatists, is as much in need of revision as the place of facts in scientific inquiry. This claim is often held against pragmatists, who are charged in coming down too harshly on Aristotelian logic and showing an unduly romantic concern with the anomalous and the irregular (Huber 1973; Lewis and Smith 1980). Most of these charges, in my view are spurious. The crux of the pragmatist argument was that formal logic, and based on it classical inquiry, presuppose certain qualities in things, such as noncontradiction and identity, which run contrary to the ones observed in reality. Aristotelian logic does not square with the fact that each object has
many “natures,” that it has a “capacity to be several things at once” (Mead 1932, p. 49). Indeterminacy, uncertainty, complementarity, and quantum of action, cannot be adequately described in terms of traditional logic. No wonder that pragmatists, following in the steps of physicists, reached the conclusion that “Logic being the lesser thing, the static incomplete abstraction, must succumb to reality, not reality to logic” (James [1909] 1967, p. 207). The image of reality as emergent process adopted by modern science was too hostile to the assumptions of formal logic, and so it had to be complemented by a logic of a new type: “Aristotle’s logic is built up on the theory of thing. From his standpoint the thing is something there. That is not the attitude of modern science.... Our science is of an evolutionary character.... Our interest is to find out how any particular thing comes to be, and for that we have a different type of logic” (Mead 1938, p. 80).

What sort of new logic does one glean from pragmatist writings? It appears there under different labels, as “logic of inquiry,” “logic in use,” “the logic of situations.” In any event, it is the logic that takes the indeterminacy and the qualitative immediacy of the situation seriously. Pragmatist logic recognizes that things in themselves are indeterminate, that their logical identities are emergent, and it explicitly acknowledges that it is the knower who terminates the indeterminacy by recourse to a terminological frame in terms of which the flux of things themselves is transformed into a situation that is rational and logical. Pragmatist logic is at odds with classical science insofar as the latter “disregards the qualitative heterogeneity of experienced objects so as to make them all members in one comprehensive homogeneous scheme” (Dewey [1929] 1960, p. 133). To this preoccupation with the quantitative identity pragmatist logic juxtaposes an emphasis on the qualitative heterogeneity of indeterminate objects and the actual process of “the transformation of an indeterminate unsettled situation into a determinate unified existential situation” (Dewey 1938, p. 296). This logic is sensitive to the fact that reality out there does not fit completely into our logical mold, that it spills over the classificatory borderlines and neat nomenclatures devised for trapping it, and it teaches us respect for the unique and inchoate, which classical science chose to ignore:

Hence, the importance of noting apparent exceptions, extreme cases, anomalies. The interest is in the discrepant because that stimulates inquiry, not in the fixed universal which would terminate it once and for all... Standardization, formulae, generalizations, principles, universals, have their place, but the place is that of being instrumental to better approximation to what is unique and unpredictable (Dewey 1916, p. 212; [1929] 1958, p. 117).

One final aspect of the transition from classical to modern science which has bearing on pragmatism needs to be mentioned here. It concerns the loss of faith in the omnipotence of science, and especially its ability to predict and
direct the course of societal development. The Age of the Machine produced a distinct ideology of scientism which ceded to scientists primary responsibility for articulating a scientific rationality underlying social evolution. According to this ideology, it was the scholars' task to uncover the laws of social developments and lay out the ground plan for a rational society of the future, the latter being billed as a matter of natural necessity rather than a product of human efforts and conflicting values. The scientific creed left little room for personal choice and social reform. Its premise that we live in the imminently rational and law-abiding universe made superfluous efforts to make it more rational and humane. The demise of mechanicism spelled the end of the unwarranted optimism about the scientists' ability to chart the inexorable course of social evolution. It also exposed the limitations of the traditional social order that flourished in the rationalist era. Werner Heisenberg sensed acutely these limitations when he praised the Romantic revolt against the ossified propensities of the traditional order. This revolt, he wrote, "can be regarded, at least in part, as the reaction to a world beginning to transform itself by rationalism, science, and technology into a matter-of-fact, practical precondition of outward life, so that it no longer offered any proper scope for the personality in its wholeness, its wishes and hopes" (Heisenberg 1974, p. 134). The world of rationalism was the world of estates, rigid hierarchies, legal bondage, and servitude. It ran contrary to the ideals of democracy endemic to the modern world in which all classes, identities and rationalities appeared to be historically emergent. Where the adherents of mechanistic philosophy looked for inherent rationality, modern mind searched for historically contingent meanings. Where one undertook to discover the preordained order and the ultimate destination of history, the other stressed the freedom of the will and the scholar's responsibility for the consequences of scientific discoveries:

Newtonian physics is based upon the idea of laws which govern the phenomena and the power inherent in understanding them, but it leads to impotence in the face of a Great Machine which is the universe. Quantum mechanics is based upon the idea of minimal knowledge of future phenomena (we are limited to knowing possibilities) but it leads to the possibility that our reality is what we choose to make of it (Zukav 1979, p. 17).

Just as modern physicists, pragmatist philosophers are apt to stress that "it depends upon the individual as to what kind of world he lives in" (Mead 1936, p. 103). Central to their metaphysics is the assumption that the world out there is full of possibilities which are to be selected and practically transformed into a determinate, objectively meaningful reality. Nothing is inevitable about the future when it comes to human society; it is but a possibility, contingent on many factors, including practical skills, determination and material resources available to the subjects. Classical rationalism, Mead (1899a, pp. 370-371)
points out, misses this point, in that it presupposes a world in which we stand "outside the forces at work, and thus avoid the difficulty of harmonizing the feeling of human initiative with the recognition of series which are necessarily determined. In society we are the forces that are being investigated, and if we advance beyond the mere description of phenomena of the social world to the attempt at reform, we seem to involve the possibility of changing what at the same time we assume necessarily fixed." Granting the world a measure of indeterminacy is essential if we are to allow for the conscious transcendence of the status quo. This measure of indeterminacy, however, does not minimize the role of science or obviate the need for rational inquiry—both are crucial for explicating various objective possibilities endemic to the world. The ultimate choice, however, is outside the purview of science: it belongs to the community at large. Science is important to furthering the cause of a more rational society, pragmatists are apt to stress, although not so much because of the substantive insights is has to offer but because of the ideal of universal communicability and free inquiry built into its premises. Indeed, science offers the best available model of democracy in action, a model of a community of free inquirers engaged in an ongoing revision of its foundations, which is akin to the pragmatist vision of a democratic community governed by the informed public. The pragmatist commitment to a democratic community engaged in the process of ongoing reconstruction bears more than a superficial resemblance to the operations of scientific community populated by free inquirers every one of which is competent to judge the matters of truth and is expected to question the established wisdom and offer alternative solutions. As we can see, pragmatism was a social philosophy, the one that grounds not only scientific inquiry but the entire range of human activity in the social principle. As such, it was bound to be central for the sociological enterprise.

PRAGMATIST METAPHYSICS AND SYMBOLIC INTERACTIONISM

Whenever the subject declares that something is real, he renders a social judgment. He claims, in effect, that his judgment is valid not just for himself but for the entire community of rational beings to which he belongs as a member. "Thus, the very origin of the conception of reality shows that this conception essentially involves the notion of a COMMUNITY" (Peirce 1955, p. 247). The recognition that individuals are engaged in the process of knowing not as individuals but as members of society, that objective validity of our knowledge is predicated on the public nature of scientific inquiry and its essential tools, that society is, consequently, at the root of everything we call "objective"—this recognition was indeed "one of the most important achievements of the pragmatic movement" (Morris 1970, p. 96).
To be sure, not all pragmatists were equally concerned with the social dimension of human existence. Lewis and Smith (1980) correctly point out that William James had little use for social variables in his discussion of the objectification process. I believe these two authors are wrong-headed, however, when they try to draw a sharp line between pragmatists on this issue. Lewis's (1976, p. 357) attempt to juxtapose Mead's social theory to "Dewey's image of man—an unsocialized, calculating man of the jungle" is thoroughly unfounded. Dewey's concern for the social conditions of human existence was life-long, it developed quite independently of Mead, and as Mills (1966, p. 443) showed, was a reflection of his Hegelian heritage. "... Man is essentially a social being," Dewey ([1888] 1969, p. 232) wrote as early as 1888, "the non-social individual is an abstraction arrived at by imagining what man would be if all his human qualities were taken away." The same can be said about Schiller ([1903] 1969, p. 58), who maintained that "Man is a social being, and truth indubitably is to a large extent a social product." Even James, who had more subjectivist proclivities than other pragmatists, spoke with approval about the socially oriented pragmatism of Peirce and Dewey, and was personally responsible for the introduction of the notion of social self into scientific discourse in this country. The best tack we can take is to consider the different emphases of pragmatist writers as complementary and try to weld together James's, Dewey's and Schiller's sensitivity to indeterminacy and emergency with Peirce's and Mead's central concern with sociality and objectivity.

The writings of Mead are of particular importance in this regard. It was Mead who first hinted at the fact that because the world around us is not fully complete and determinate, as Bergson and other philosophers of flux convincingly showed, there is a need for a stabilizing factor which helps individuals to break indeterminacy. There is an interesting passage in Mead's correspondence illuminating this point. "As regards the problems which Bergson presents," wrote Mead in one of his letters (Mead papers, Mead to Irene Tufts, September 1, 1920, b1a, f7), "I find my mind wondering around them, like a mountain climber trying to find a possible path up impossible declivities. I can't get away from them, but I haven't found a path, though I am pretty confident of the general locality within which the access must be found—the social structure of mind." The path suggested by Mead was imminently sociological: to stop the chaotic flux of things themselves and to convert it into an orderly flow of objective reality humans have to use social reference frames and rely on the social structure of their minds. Society provides individuals with terminating devices in terms of which they can cut out meaningful objects out of the field of experience. Their meaning does not inhere in things; nor is it ordained by God; rather it is a cultural product of historically situated individuals. Environment, stressed Mead (1936, p. 130), is "endowed with meanings in terms of the process of social activity." Or as Dewey ([1929] 1958, pp. 180-181) would say, "significant things are things actually implicated
in situations of shared or social purpose and execution.” All objects surrounding us, insofar as they have a definite shape and meaning, are socially constructed; society is the source of everything we call “objective,” and by the same token, of everything we label “merely subjective”:

All objects are originally social objects.... The physical object is an abstraction which we make from the social response to nature.... The objectivity of the perspective of the individual lies in its being a phase of the larger act. It remains subjective in so far as it cannot fall into the larger social perspective... (Mead 1934, pp. 151, 548; 1934, p. 184).

Now if we take a closer look at symbolic interactionism, we can see that it can be understood as an attempt, half-conscious as it were, to translate the nonclassical idioms of pragmatist metaphysics into the language of social research. The chief concern of those working in this sociological tradition is with the process of terminating indeterminacy or defining the situation, as early practitioners preferred to say. What makes this concern with terminating indeterminacy explicitly sociological is the realization that the process of determination is shaped by society, that “different tribes define the same situation and pattern the behavior in precisely opposite ways” (Thomas 1937, pp. 8-9), that “things do not have the same meanings with different people, in different periods of time, in different parts of a country” (Park and Miller 1921, p. 265), that humans approach the task of defining the situation armed with “models of situations” and “super-individual schemes” (Znaniecki 1919, pp. 199, 284). The object of interactionist sociology is the pluralistic social universe generated by different groups, which produce their own particular worlds of symbols, meanings, and objects. At the core of each social world is a set of symbols or means of universalization in terms of which individuals continuously reproduce their society. Each social world is marked by “its own ways of acting, talking, and thinking ... its own vocabulary, its own activities and interests, its own conception of what is significant in life, and ... its own scheme of life” (Cressey 1932, p. 31). Such a world has no reality in and of itself, in the sense of being independent of its members. Although it does have the qualities of thingness and obduracy which cannot be wished away by a particular individual, the social world is always a product of its members’ generative activities. In the words of Znaniecki (1927, p. 536), this “is not a world of independent realities such as might be known by some ideal absolute subject; it is a world of ... data given to concrete, historically determined subjects, and of actions which these human subjects actually perform upon these objects of their own experience.” Hence, the emphasis on “a continual interaction of individual consciousness and objective social reality,” (Thomas [1918-1920] 1966, p. 11), “the active participation of thought in the evolution of objective reality” (Znaniecki 1919, p. 104), “social object [a]s an artifact; something made” (Park [1929] 1952, p. 202) so indicative of the interactionist project.
The basic framework of interactionist theory is relativistic. This does not mean that interactionist sociologists frame their insights in the language of the theory of relativity. Like their pragmatist colleagues, interactionists prefer to speak about the "relativity of the living individual and its environment" (Mead 1964, p. 278). The relativist thrust of this "Darwinized relativity" is unmistakable. The epistemological gist of Einstein's theory of relativity, we may recall, was its refusal to draw a sharp line between the antipodal concepts of classical physics, most notably—energy and mass. According to Einstein, the two represent not separate entities but the poles in the same continuum; each can be converted into the other, and both should be expressed in terms of each other. This dialectical relationship is best visualized through the notion of field, which on some occasions manifests itself as a corpuscular body and on other reveals the wave properties. A similar dialectical inversion is found in interactionist reasoning, which cuts through the traditional antinomies of sociological reason: the individual and society, process and structure, self and role, meaning and norm, and so forth. These abstractions were reconceptualized in symbolic interactionism as aspects of the ongoing process of the production of social reality as objective and meaningful, the process that sometimes transpires as social body and sometimes as series of personal transactions. The ontological primacy is assigned to the flux of social interaction, out of which personality and society emerge continuously, and not to a finished product. To say that social reality is emergent is to say that it never ceases to emerge, that the individual and society can be expressed only in terms of each other, that the two are mutually constitutive. Here is a sample of interactionist statements expressing this point:

A separate individual is an abstraction unknown to experience, and so likewise is society when regarded as something apart from individuals.... "Society" and "individual" do not denote separable phenomena, but are simply collective and distributive aspects of the same thing.... The individual is always cause as well as effect of the institution: he receives the impress of the state whose traditions have enveloped him from childhood, but at the same time he impresses his character, formed by other forces as well as this, upon the state (Cooley [1902] 1964, pp. 36-37; [1909] 1962, p. 314).

The human personality is both a continuously producing factor and a continuously produced result of social evolution.... When viewed as a factor of social evolution the human personality is a ground of the causal explanation of social happenings; when viewed as a product of social evolution it is causally explicable by social happenings (Thomas [1918-1921] 1966, p. 11).

It appears, then, that habit and custom, personality and culture, the person and society, somehow are different aspects of the same thing.... Personality [is] the subjective and individual aspect of culture, and culture [is] the objective, generic or general aspect of personality.... Within the circle of these two tendencies, man's disposition, on the one hand, to create a world in which he can live, and, on the other hand, to adapt himself to the world which he himself has created, all, or most of the problems and the processes are included with which the student of society is positively concerned (Park [1929] 1952, pp. 203-204; 1923, pp. v-vi).
As one can readily see, these statements entail a circle, whereby the individual is explained in terms of society and vice versa. This circle need not be seen as a vicious one; rather, it can be construed as a hermeneutical or dialectical circle, which, to use Hegel's expression, requires formulating each concept in terms of "its other" and viewing the two as a thesis and antithesis bound together through a synthesis into a larger whole. The logic underlying this reasoning does not negate the importance of structural phenomena in society, any more than relativist mechanics undermines the obduracy of the macroscopic world of classical mechanics. It simply replaces the absolute structure of classical sociology (an analogue of an absolute spatio-temporal structure of classical mechanics) with the historically and situationally specific reference frames (an equivalent of the relativistic spatio-temporal structure whose metrics is affected by the interaction of the particles). In the classical account, social structure exists on its own, more or less independently of individuals, who find themselves situated in a particular region of social structure and are forced to act according to its dictates. In the interactionist perspective, absolute—Leviathanic—structure is replaced with a multitude of specific reference frames, that individuals carry with them into practical situations and relative to which they can manifest different self-identities. Social structure transpires as an emergent process continuously accomplished by self-conscious individuals, whose interaction induces specific determinacy into each situational encounter, without at the same time alleviating indeterminacy altogether. Structure is grasped here as an event, a possibility that needs to be eventualized by the participants in social interaction, rather than as a fixed mold which preordains the actions of individuals. Which is what Park (1927) was trying to say when he insisted that "in a study of a social group ... the point of departure is, properly, not structure, but activity," and what Dewey (1916) aimed at when he claimed that "Society not only exists by transmission, by communication, but it may be fairly said to exist in transmission, in communication."

We find specific examples of this processual perspective in early interactionist studies (Anderson 1923; Thrasher 1927; Whyte 1943; Zorbough 1929). Contemporary interactionist research continues to emphasize the processual, constructed and partially determined character of social reality. The important thing for interactionists is that indeterminacy is not just a sign of confusion in individuals' minds, that "significance and meaning are inherently uncertain features in human interactions" (Perinbanayagam 1985, p. 17). Interactionist sociologists are fascinated with the fact that social reality is "inherently partially problematic" (Douglas 1980, p. 12), "to some extent ambiguous and unstructured" (McCall and Simmons 1978, pp. 124-125), has many "gaps and ambiguities in the rules" (Morgan 1975, p. 224), and reveals "an inchoate quality ... of disorder, incoherence, unorganization, and vagueness" (Lofland 1976, p. 316). "The definition of the situation is equivalent to the determination
of the vague,” wrote Thomas; before the definition gives a situation its specific shape, “the situation is quite undetermined,” but as the definition unfolds, “the situation becomes definite” (Thomas and Thomas 1928, p. 572; [1918-1920] 1966, pp. 23-24, 240). What these statements amount to is that social reality wears Emperor’s clothes, with all members of society engaged, actively or passively, in the process of structuring appearance into reality (Goffman 1959). Objective reality must be continuously brought up from the state of indeterminacy and ‘reinaugurated” as a full-fledged, operational social order, or a Potemkin portable village fit for temporary dwelling. That is what we do when we present ourselves in public, when we fit our actions into a definite pattern reflecting our—and society’s—image of what is and is not appropriate for a given place and time. However successful our efforts, they do not alleviate completely the indeterminacy of the situation. As the pioneering works of Glaser, Strauss (1964, 1965, 1968, 1971) and their associates (Bucher 1970; Freidson 1973; Roy 1976; Strauss, Schatzman, Ehrlich, Bucher, and Sabshin 1963) demonstrate, uncertainty is a strategic property of social reality that plays a constructive role in making formal organizations (such as large hospitals) operate in a smooth fashion. Ambiguity, uncertainty and indeterminacy abundantly present in everyday life are valuable resources, drawing on which individuals can accomplish collective goals in the face of everchanging exigencies of the situation, and do so without losing their sense of autonomy as human beings. Implicit in this interactionist perspective is the image of society as a *semi-ordered chaos* (or if you wish semi-chaotic order)—an image fully consistent with the strategic role that modern science accords to chaos and dissipative processes in nature. This root image, which contrasts with the over-determined picture of society one finds in the traditional sociology, highlights the less than orderly and often-times down-right chaotic manner in which a typical social order operates. It draws the researcher’s attention to the hidden agendas, dramaturgical props and ever-present improvisations which the actors rely upon to sustain the appearance of orderliness in the social world. It makes social reality appear not so much as “order” and “structure” as “ordering” and “structuring,” that is, “the forming of social structure” (Coach 1984, p. 11). Correlatively, it forces the sociologist to deal not only with “law abiding” and “rule-bound” behavior but also with “a continuous process of conspiracy, evasion, negotiations, and conflict” (Freidson 1976, p. 254) that routinely falls short of professed organizational goals and standards.

As we can see, the interactionist perspective has been built around nonclassical assumptions and concepts. Understandably, it has engendered less than traditional research guidelines. A key to the interactionist methodology is the pragmatist concern for qualitative immediacy and heterogeneity. Casting aside the rationalist “disdain for the particular, the personal, and the unwholesome” (James [1909] 1967, p. 309), interactionists endeavor to grasp “the distinctive or unique nature of the empirical instance” (Blumer 1969,
They opt for thick description, the local texture and the subject's own meanings of the events under study. The focus is on the border-crossing incidents, on the things' contradictory predicates. Interactionists are never too quick assigning an individual to a group or class. James's warning serves them in good stead: "We carve out groups of stars in the heavens, and call them constellations, and the stars patiently suffer us to do so,—though if they knew what we were doing, some of them might feel much surprised at the partners we had given them" (James [1907] 1943, p. 164). To avoid the arbitrary grouping of individuals into abstract classes, interactionists attempt to take the role of their subjects, to grasp the individuals' multiple affiliations and self-identifications relevant to their overt actions. In doing so, they become participant observers. The diachronic character of participant observation method suits perfectly the researcher studying society across space and time. A pluralistic social universe generated by the defining activities of self-conscious individuals is experienced by the sociologists who partake, directly or vicariously, in the lives of their subjects. To be sure, the researcher taking direct part in the social process under study leaves a mark on the object of investigation, and thereby is always in danger of violating one of the cardinal precepts of classical research methodology, which mandates a sharp line between the subject and the object of the study. But for those who reject the notion that "knowledge reproduces reality in its pre-existing determination" (Znaniecki 1919, p. 232), who recognize that "we must put ourselves in the position of the subject who tries to find his way in this world" (Blumer 1939, p. 51), because "the environment by which he is influenced and to which he adopts himself, is his world, not the objective world of science—is nature and society as he sees them, not as the scientist sees them" (Thomas [1918-20] 1966, p. 23)—in short, for all those who accept the subject-object relativity as a condition of knowledge, the dividing line between subject and object is never absolute, and the informing of the known by the knower is an inexorable part of the research process.

The method of participant observation stipulates that "one must come into human contact with people and this in turn means intimacy, sharing, and mutual identification" (Dollard 1937, p. 29). Or as James ([1909] 1967, pp. 250-251) stated the same idea decades earlier: "The only way in which to apprehend the reality's thickness is either to experience it directly by being a part of reality one's self, or to evoke it in imagination by sympathetically divining some one else's inner life." In theoretical terms, the concern for the irregular and uncertain focuses attention on the instances where the thing in question fails to behave as an instance of a certain kind and manifests its contradictory predicates or selves. This does not mean that idiographic description supplants conceptual analysis in interactionist research, or that the researcher's sense of reality is identical with the one displayed by the subjects. As James ([1909] 1967, p. 251) contended long ago, "direct acquaintance and
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conceptual knowledge are ... complementary to each other,” or as Denzin urges nowadays, “a distinction must be made between everyday conception of reality and scientific conception of reality” (Denzin 1970, p. 9). The crux of the matter is here in a shift from abstract definitions to the operational device of a distinctly ideal typical cast. Blumer (1969, pp. 148-149) calls such a device “sensitizing concepts.” What distinguishes the latter from “bench-mark abstractions” indifferent to the peculiarities of individual cases is that sensitizing concepts guide the knower “from the concept to the concrete distinctiveness of the instance instead of embracing the instance in the abstract framework of the concept.” This methodological device allows the researcher to track the boundary-crossing episodes that are ignored in the traditional research procedures which reduce each individual case squarely to a taxon and dispose of the ambiguous cases as anomalies. Truthfulness to the objective indeterminacy of the situation is what this method is aimed at and what it helps to accomplish more than any other technique.

Interactionist methodology renders problematic not only objects under study; it also treats “the very act of engaging in social research [as] a process of symbolic interaction” (Denzin 1970, p. 12). Interactionist inquiry inevitably turns onto itself, encouraging self-reflection and the critical appraisal of the researcher’s biases. It helps us understand the reifying propensities of science itself, of its misleading promise to unveil things themselves and their natural laws. Interactionist research requires a critical examination of the scientists’ unstated philosophical assumptions, hidden agendas, and dormant ideological preferences. The purpose of this methodological self-reflection, however, is not to expunge all these biases but to recognize their irreducible character, to render them into consciously adopted premises. Which brings us to the last point to be discussed in these pages, the point at which the perspectives of symbolic interactionism, pragmatist philosophy and modern science once again intersect.

As I have tried to show, twentieth-century scientists are more apt to take a critical view of themselves than their predecessors. The unanticipated consequences of scientific discoveries (e.g., the ones furnished by atomic physics) made scholars aware of their responsibility for the world, which is “out there” in part because we are “out here.” To quote Heisenberg (1958, p. 23) one more time, “we live in a world which man has changed so completely that in every sphere ... we are always meeting man-made creations, so that in a sense we meet only ourselves.” In our daily existence, and not without help from science, we tend to lose sight of our authorship and fall back onto an uncritical acceptance of the status quo as natural and inexorable. Pragmatist philosophers and interactionist sociologists recognized this fact and sought to increase the self-awareness of men and women who make the world the way it is. Pragmatist philosophy is fundamentally a critical undertaking, in that it openly acknowledges that “philosophy is criticism, having its distinctive position among various modes of criticism in its generality; a criticism of
criticisms, as it were" (Dewey [1929] 1958, p. 398). Symbolic interactionism, most notably in its formative stages, was also a critical sociology, whose practitioners took active part in the Progressive movement and sought to humanize contemporary American society (Carey 1975; Shalin 1988). Whatever could be said about the substantive political commitments of present day interactionists—and these may well differ—the interactionist stance is inimical to the uncompromisingly ideological attitude which does violence to the objective indeterminacy of the situation and its various possibilities. This stance is based on the assumption, again fully consistent with pragmatism, that there is more than one set of principles and rules that apply in each case, that the situation lends itself to conflicting political adjudications, that any choice among potential lines of action closes many more horizons than it opens. The pragmatist ethos is antithetical to the ideological purity and smugness of those on the extreme right and the extreme left who know exactly what is wrong with the world and question the motives of those who question their assumptions. While skeptical about any “vision given on the mount” (Mead 1899b, pp. 405-406), the pragmatist ethos does not brook ideological skepticism. A stance that befits the sociologist schooled in the pragmatist tradition is that of ideological ambivalence—a stance that eschews the unreflexive model of being in the world taken for granted and encourages scholars to accept their responsibility as both actors and authors in the drama of history.

CONCLUSION: POSTMODERN SCIENCE AND SYMBOLIC INTERACTIONISM

Twentieth century physics has been appropriately called “humanistic physics” (Wolf 1981, p. 7). What makes it humanistic is the radical manner in which modern students of nature “have rid themselves of a fascination with a rationality taken as closed and a knowledge seen as nearly achieved” (Prigogine and Stegners 1984, p. 306). This momentous shift has been noted by philosophers of science, who now herald the onset of a radically new—postmodern—outlook on the science’s mission in society. Jean Francois Lyotard (1984, pp. 58-61) is among the most forceful exponents of this view. His main contention is that the “grand narrative” of objectivity and progress which has traditionally served to justify scientific enterprise is gradually loosing its legitimizing power. In its place, one finds the acute awareness of “singularities,” “discontinuities,” “incommensurability,” and “paralogy,” which are increasingly treated as phenomena in their own right. In a telling example, Lyotard cites Rene Thom’s catastrophe theorem which, in the language of mathematical equations, spells out our limited ability to predict the state of a system from a finite set of initial variables. Widely disparate outcomes in
the system’s behavior could be observed in real life situations, each one consistent with the initial conditions. A determinate outcome, according to this theory, is an exception: “All that exists are ‘islands of determinism.’ Catastrophic antagonism is literally the rule.” Postmodern science, correlative, is the one that refuses to relegate indeterminacy and contradictions to the backstage of scientific enterprise and squarely reckons with “undecidables, the limits of precise control, conflicts characterized by incomplete information, ‘fracta,’ catastrophes, and pragmatic paradoxes” (Lyotard 1984, pp. 59-60).

The positivistic narrative of objectivity and its unreflective use in modern science and philosophy come under criticism in the works of Richard Rorty (1979, 1982). Taking his cue from Kuhn’s argument that there is no algorithm compelling the transition from one scientific paradigm to another, Rorty urges us to reevaluate the social dimension of the selection process, and specifically the fact that “the application of such honorifics as ‘objective’ and ‘cognitive’ is never anything more than an expression of the presence of, or the hope for, agreement among the inquirers” (1979, p. 335). The criteria of what does and does not count as objective, according to Rorty, are culturally and socially determined—the conclusion that is a fortiori true of social science (Rorty 1982).

Implications of these insights for nonclassical, postmodern sociology are now beginning to be assessed by social scientists (see Denzin 1986; Perinbanayagam 1985, 1986; Shalin 1978, 1986a). It is too early to tell what shape postmodern sociology will take in the years to come, but it clearly has to foster the awareness that the research act affects the objective status of social reality under study, that interpreting humans to themselves, social scientists can never be “neutral” observers, and that every overarching narrative or rationality overimposed on social reality is likely to break down and require major correctives in concrete practical settings.

Given these premises, one can argue that symbolic interactionism meets the desiderata of postmodern science. Interactionists have always been aware that the sociologist is a participant observer whose research act informs the reality under investigation. Since its inception, symbolic interactionism has accentuated the link between scholarship and criticism. The interactionists’ commitment to understanding social reality in situ rather than in toto clearly conforms to the maxim of “local determinism” (Lyotard 1984). Finally, interactionists accord a special status to uncertainty and indeterminacy as phenomena in their own right. The entire edifice of interactionist sociology could be seen as a counterpart to nonclassical, humanistic physics. Viewed from this vantage point, social reality is the ongoing process of terminating indeterminacy and social order is a work of sculpture carved out every moment anew. The emphasis here is on the historically situated agency or self. The latter is a nonclassically propertied object par excellence: it exists in several states at once and requires a quantum of action for rendering one of its possible
disguises into objective being. Human identity is a quantum of social reality objectivized in a given situation or a concentrated expression of the entire social field which gained saliency in the individual’s action on a given occasion. The moment the individual takes the role of the other, he makes a quantum jump and surfaces with a new identity, as a constituent of a different interactional field. This new identity is no more natural and ingrained, however, than all the others that failed to materialize. A self-conscious being contemporaneously present in several systems, the individual can change his attitude at any time, assume a different identity, turn as an instant of a different type. The significance of these microscopic metamorphoses extends far beyond individual self-consciousness, for the human self is the backbone of social order. The latter comes into existence through the self-consciousness of its individual members who continuously objectify themselves and thereby the very society to which they belong. Society exists as a meaningful whole as long as individuals keep identifying with their social roles. When humans stop lending their faces to official causes and dramatizing familiar realities as objective and meaningful, they literally relativize the social order. The relativistic effects, most evident in revolutionary eras, are equally felt in routine interactions, where perspectival pressures from conflicting social fields produce tensions in our identities, induce unpredictable deviations in our behavior, and inexorably compromise the sanctity of the official social order. This order is never static; it is an ocean of interferentially overlapping social fields, comprised by individuals with multiple identities, every-ready to make a quantum jump from one social field to another. When the solidarity among individual members is high, these fields appear to us as solid bodies; on other occasions, they are more akin to liquid, even gaseous formations, held together by exceedingly weak bonds. In the end, however, these are but different manifestations of the same process of social interaction that unfolds in the here and now of practical situational encounters and that owes its obduracy and continuity to the sense-bestowing activity of its members.

Once again, I cannot pretend to know how the development of nonclassical, postmodern sociology would proceed. I am confident, however, that this process will lead to the reappraisal of indeterminacy, uncertainty and chaos as central concepts in sociological analysis. It seems equally safe to predict that symbolic interactionists will be at the forefront of this movement.

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NOTES

1. Lewis and Smith's treatment of the subject is a sad example of a high-handed criticism. "Charitably," write the authors, "let us grant that Dewey did not mean that Aristotelian logic is merely an historical document expressing no transitional truth.... We also do not take seriously Dewey's suggestion that logic is irrelevant to modern science" (Lewis and Smith 1980, p. 100). Besides distorting Dewey's position on the place of logic in modern inquiry, the authors do injustice to Dewey and to themselves by "charitably" dismissing the life work of a great American philosopher.

2. On the notion of the hermeneutical circle in its relation to sociological analysis see Shalin (1986a).

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