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Metaphor, theory, and practice in the history of psychology

DAVID E. LEARY

The chapters of this volume provide more than ample illustration of the claim that "metaphor permeates all discourse, ordinary and special" (Goodman, 1976, p. 80), and they also demonstrate that metaphor is particularly vital "at the growing edges of science" (Quine, 1979, p. 159).

In these chapters we have seen that neuropsychological discourse has been advanced by the use of metaphors from telecommunications, control systems engineering, computer science, holography, and other developments in parallel distributed processing (Pribram, Chapter 2); that theoretical discussions of the emotions have revolved around metaphors of inner feelings, physiological responses, vestiges of animal nature, diseases of the mind, driving forces, and social roles (Averill, Chapter 3); that treatments of motivation have portrayed the human person as a pawn, an agent, a natural entity, an organism, or a machine (McReynolds, Chapter 4); that a vast array of cognitive metaphors have been insinuated into a variety of domains in psychology and related sciences, ranging from the metaphors of "vigilance" and "defense" in the field of perception through the "access skeletons" and "flavors" of artificial intelligence (Hoffman, Cochran, & Nead, Chapter 5); that separate traditions proposing "reproductive" versus "productive" theories of cognition have evolved from diverse views of consciousness as either a passive *mirror* of reality or an active *molder* of experience (Bruner & Feldman, Chapter 6); that there is a rich history of behaviorist metaphors, extending from Descartes's reflected spirits and Pavlov's psychic reflexes through Tolman's mazes, Hull's machines, and Skinner's selection by consequences (Smith, Chapter 7); that whereas traditional discussions of

social groups have typically utilized organismic, animalistic, and physicalistic metaphors, recent social scientific discourse has tended to view social life from the metaphoric perspectives of the animal laboratory, mechanistic regulation, meaningful relations, and systems theory (Gergen, Chapter 8); that there is a long history of categorizing and reifying unwanted conduct through the use of “mental illness,” “hysteria,” “schizophrenia,” “hallucination,” and other such loosely warranted metaphors (Sarbin, Chapter 9); and that an analysis of the historical roots of modern associationism, besides revealing the importance of cultural context in the articulation of basic psychological metaphors, suggests that a fuller understanding of the role of metaphor will involve a broader consideration of metaphor’s place within psychological discourse as a whole (Danziger, Chapter 10).

What may not have been so amply highlighted in the foregoing chapters, simply by virtue of their preordinate emphasis on the role of metaphor in the construction of psychological *theory*, is the extent to which metaphors are associated with the *practical routines* of day-to-day behavior – with the “dramas,” “rituals,” and “performances” that fill the lives of psychologists and their public.¹ As psychologists learn through metaphorical comparisons to see certain “commonalities in objects or situations,” they rather naturally come to behave in a similar fashion toward these objects or situations (see Gardner, 1982, p. 166). Thus, if some psychologists conceptualize the mind as a computational device whose instrumentalities and procedures can be specified once and for all, whereas others think of the mind as an organic entity that changes both structurally and functionally over the course of a lifetime, they will adopt very different methodological practices in their psychological investigations. Similarly, if clinical or counseling psychologists consider members of the public to be their “clients” rather than their “patients,” they are likely to orient their professional interactions in distinctive ways. In other words, the metaphors psychologists use to construe the objects and subjects of their concern are related – often in fundamental ways – to the methodological and social practices in which they engage.²

The commerce between metaphor and practice, like that between theory and practice, can be conducted in both directions. Metaphors can be drawn from the realm of the practical just as practical routines can be derived from the metaphorical conceptions underlying theoretical discourse. Furthermore, just as practice can be shaped by metaphor, so too can the creative extension or amendment of metaphors be facilitated or constrained by various practical factors and considerations.³ For this reason, metaphorical thinking, in science as elsewhere, can hardly be treated, in its fullness, as some sort of disembodied or radically free play of the mind, limited (if at all) only by the past experiences, cognitive habits, and biases of individuals. That such treatments are sometimes

proposed is sufficient cause for Knorr-Cetina's (1981, chap. 3) repeated insistence that metaphorical or analogical theories of scientific innovation are incomplete. It is certainly true, as she argues, that scientists must "work out" or "realize" metaphorical concepts in the tangible, nitty-gritty process of "knowledge production" that takes place in the laboratory or clinic before any truly consequential innovations can be brought about. It is also true that the theoretical articulation of a metaphor often occurs closer to the end than to the beginning of the research process. Clearly, as Knorr-Cetina (1981) says, "the process of research production and reproduction is more complex than the equation of metaphor and innovation suggests" (p. 66).⁴

Furthermore, in addition to the social norms, institutional structures, and practical routines that may seem more immediately indigenous to scientific workplaces, the context of the production *and selective consumption* of research is composed of cultural values and constructs. As Durkheim (1912/1965) said long ago:

It is not at all true that concepts, even when constructed according to the rules of science, get their authority uniquely from their objective value. It is not enough that they be true to be believed. If they are not in harmony with the other beliefs and opinions, or, in a word, with the mass of the other collective representations [the concepts taken for granted by most people in a given time and place], they will be denied; minds will be closed to them; consequently it will be as though they did not exist. (p. 486)

Investigating the social historical context as well as the social historical influence of any given metaphor will prove essential if we are to know not just that metaphors play an important role in the history of science, but why *this* or *that* particular metaphor plays *this* or *that* role at *this* or *that* time and in *this* or *that* place. In this regard, Kurt Danziger's call (in this volume) for careful attention to the sociocognitive or cultural setting of psychological theory and practice is very well justified. It is critical that we heed such calls if we are to carry the program of research initiated in this volume to its completion – or if we are, at the very least, to start down the path that future research must take. I would characterize this path by saying that it leads through the newly emerging field of the *rhetoric of science* toward an even wider concern with what might be called the *pragmatics of science*.

To situate these new and prospective fields, with special reference to the history of psychology, I would begin by noting that the practice of psychology is clearly framed and supported by the kind of social and institutional structures studied by sociologists of science. Beyond that, it is held together by the finer webs of cultural, historical, linguistic, and personal relations that anthropologists, historians, psychologists, *and*

rhetoricians like to investigate. The subject matters of these various disciplines may be said to revolve around the problems and processes of community and communication. Science, as one of these subject matters, may seem to begin with the attempt to specify and clarify the products of perception, but as David Bohm (1977) has put it:

the very act of perception is shaped and formed by the intention to communicate, as well as by a general awareness of what has been communicated in the past, by oneself and others. Even now, it is generally only in communication that we deeply understand, that is, perceive the whole meaning of, what has been observed. So there is no point in considering any kind of separation of perception and communication. (p. 374)

A similar awareness of the social context of perception – and of all that follows *after* perception in the standard conceptualization of scientific “knowledge production” – has been at the root of the recent “rhetorical turn” in historical and philosophical studies of science.⁵ The investigation of the role of metaphor in the history of science is both a cause and an effect of this turn, and it invites the next step into a full-blown rhetoric of science.

To speak of the rhetoric of science is not to imply that science is some kind of mere word play, any more than speaking of metaphorical thinking in science commits one to such a view. To attend to the rhetoric of science is simply to acknowledge the potential significance of the fact that science – like all knowledge – is achieved *through* and *by means of* symbolic activity, especially linguistic activity. This linguistic activity includes the use of alternative sign systems (such as those composed of numbers) as well as the use of various distinctive means of argumentation and persuasion (such as standardized publication formats) that are intended both to capture and to communicate a particular sort of “grasp” on reality.⁶

An understanding of the pragmatics of science – the all-inclusive set of tangible practices that constitute how science actually *works* – lies on the other side of, and will encompass, an understanding of the rhetoric of science. Since we are presently far from enjoying a complete understanding of the latter, the pragmatics of science can be seen, for now, only as a heuristic goal toward which current and future research should aim. Still, it should prove useful to keep this goal in mind and to strive to reach it, all the more so because a complete understanding of the actual workings of science would be extraordinarily valuable.

Why is this so? Why would an understanding of the pragmatics of science be so important? Because *for better and worse*, science, including psychology and its many professional offshoots, has been woven into the very fiber of our culture. It has become an essential source of our

culture's material goods, social practices, emotional comforts, and spiritual values – as it has also become associated with many of our culture's significant tensions, material dangers, social inequities, emotional distresses, and spiritual crises.

If the metaphors of science can “make one feel at home,” as Freud (1933/1964, p. 77) once put it, they can also serve – and have served – to dislocate humans from their once taken-for-granted position in the world. If we are to “figure out” not only the nature and history of science and psychology, but also the contours and relations of a future world that would be more worthy and supportive of habitation, our metaphors and their encompassing rhetoric must be carefully selected, thoughtfully crafted, and judiciously used.

This volume marks only a beginning. Its individual chapters provide initial forays into largely uncharted territories, and they raise a number of issues that deserve further consideration.⁷ As first steps go, this volume seems to be a good, solid one. Nonetheless, it begs for a sequel, for additional steps toward an understanding of the role of metaphor in the theory and practice of psychology – and toward a future that we can only imagine at the present time.

Notes

- 1 These term – “dramas,” “rituals,” and “performances” – are drawn from the work of Victor Turner (1974) and James Fernandez (1986). For other discussions of the “social use of metaphors” or the instantiation of metaphors in everyday life, see Sapir and Crocker (1977). For related discussions, see Edge (1974), Gouldner (1974), and Schön (1979). Some recognition was given to the practical import of psychological metaphors in Chapter 1 (e.g., in notes 52 and 53) as well as in other chapters (e.g., Chapter 8, by Gergen; Chapter 9, by Sarbin; and Chapter 10, by Danziger), but much more remains to be said.
- 2 Sarbin (Chapter 9) has pointed out the relation between the conceptual metaphors and therapeutic practices of behavioral therapists, psychodynamic therapists, existential therapists, and social systems therapists. Besides implicitly structuring the therapeutic situation, metaphors can also be used explicitly within the psychotherapeutic interchange, as the means by which both inner states and external problems can be identified, communicated, and resolved. See Barker (1985), Cox and Theilgaard (1987), Haley (1976), and Mills and Crowley (1986) for examples of such uses. For related discussions of “metaphors we live by” and “metaphors of living,” see Lakoff and Johnson (1980) and Mair (1977), respectively. Also see White (1987) for an analysis of the folk wisdom embodied in proverbs, which appear to be a “special case of the more general process of metaphorical understanding” (p. 153). At the other end of the spectrum, see Sontag (1978, 1988) for discussions of metaphors of disease and dying. Although she admits that there can be no thinking without metaphors, Sontag has castigated the use of the metaphors that have come to be associated with cancer and AIDS, precisely because of the devastating effects they have on the victims of these diseases – on their hopes and fears, their self-images, and the ways they are considered and treated by others.

Insofar as she is correct about these effects of metaphorical thinking (and it is only the degree and not the influence itself that seems to me to be at issue), her examples provide a poignant demonstration of the impact of metaphors on the practical conduct of day-to-day lives. An awareness of such practical impact should increase the perceived need for the "management of metaphor" (Simons, 1981).

- 3 For instance, Danziger's treatment of associationism (Chapter 10, this volume) illustrates the reshaping of an old metaphor that can take place in a new cultural context. Similarly, Hoffman, Cochran, and Nead's essay (Chapter 5) is full of examples of conceptual and theoretical developments that had to await the creation of appropriate technological analogs. Indeed, each chapter in this volume offers examples that similarly reflect the influence of practical reality on the theoretical formulation.
- 4 On the social practices associated with the production of research, see Latour and Woolgar (1979) and Star (1983) as well as Knorr-Cetina (1981). Morawski (1988) has discussed the "social bases of psychologists' work." With regard to the broader social context of scientific work, Brannigan (1981), Csikszentmihalyi (1988), Gruber and Davis (1988), and Rosenberg (1976), among many others, have begun to clarify the social origins and environment of scientific innovation, and O'Donnell (1985) has mapped out some of the social dimensions of the rise of American psychology around the turn of the century. The latter treatments of the encompassing social context are relevant to, but not equivalent to, the "closer" analyses of the social processes at work *within* the research environment to which I referred in the first sentence of this note.
- 5 Rhetoric, of course, is the art or science of spoken or written discourse, of the use of figures of speech and grammatical forms in the composition and communication of thought and feeling, of the effective use of speech and writing, with the particular aim to influence and persuade. The "rhetorical turn" in the study of science can be traced along one line to Toulmin's (1958) work on the "uses of argument," which helped to set the scene for the subsequent shift from the study of the rational logic of science to the study of the reasonable modes of argumentation in science, and along another line to Perelman and Olbrechts-Tyteca (1959/1969), who are frequently credited with reviving interest in rhetoric and its applications. Kuhn's (1970) work must also be cited as an important predecessor. Earlier predecessors, not directly influential on this shift, include Giambattista Vico (1744/1948; see Berlin, 1977; Mooney, 1985) and John Dewey. Dewey (1929/1960), following a line established by William James, argued for a distinction between old-fashioned "reason" and now-preferable "intelligence." According to this distinction, the strictly logical implementation of reason (in deducing necessary consequences of indubitable facts and assumptions) is associated with the old and unattainable ideal of achieving certain knowledge that exactly "mirrors" a presumably static world, whereas the instrumental use of intelligence (in making and continually revising contingent judgments) is associated (in Dewey's scheme) with an acceptance of the uncertainty inherent in a world in which the practical activity of coming-to-know helps to shape the reality-that-is-known. (For the essays of a contemporary Deweyan, see Rorty, 1982.) Like Toulmin, Dewey (1929/1960) used the *practicing* physician as the model of knowledge-in-action: The physician "draws upon a store of general principles of physiology, etc., already at command. Without this store of conceptual material he is helpless. But he does not attempt to reduce the case to an exact specimen of certain laws of physiology and patholo-

gy, or do away with its unique individuality. Rather he uses general statements as aids to direct his observation of the particular case, so as to discover what it is *like*. They function as intellectual tools or instrumentalities" (p. 207).

This shift of focus from rationality to reasonableness, from logic to argumentation, from the suppression to the recognition of the role and importance of rhetoric and practice reflects a "revolution" from theoretical ways of *knowing* to practical ways of *understanding*. Despite the fact that his own work preceded the recent shift by more than two centuries, Vico's emphasis on practical wisdom – on *sapientia* or *prudentialia* rather than *scientia* – is a useful emblem of this "turn," especially insofar as this recent shift toward "postrational reasonableness" (as Pepper, 1942, christened it from afar) has raised long-overlooked issues regarding the value dimensions and practical import of knowledge and science. (For a related discussion of the "recovery" of practical concerns in philosophy, see Toulmin, 1988.)

Recent works on the rhetoric of science include Benjamin, Cantor, and Christie (1987), Knorr-Cetina (1981, chaps. 5 and 6), Leary (1987), McCloskey (1985), Nelson and Megill (1986), Nelson, Megill, and McCloskey (1987), Overington (1977), Schuster and Yeo (1986), Simons (1989), Weimer (1977, 1979), and Yearley (1981). For some reason, anthropologists have been particularly sensitive to the rhetorical dimension of their discipline. Clifford and Marcus (1986), Geertz (1988), Landau (1984), and Payne (1981) are but a few of many examples. On the relationship between rhetoric and moral action, see Jonsen and Toulmin (1988). Of the many works and developments in contemporary psychology that are consonant with the new interest in rhetoric, see Billig (1987), Bronfenbrenner, Kessel, Kessen, and White (1986), Bruner (1986), Gergen (1985), Gergen and Gergen (1983), Harré (1980), Kessen (1979), Polkinghorne (1988), Sarbin (1986), Scarr (1985), Schank and Abelson (1977), and Spence (1982). Brinton (1982) has addressed the relationship between William James's thought and the "epistemic view of rhetoric."

I have discussed the responsiveness of psychologists to their audience elsewhere (Leary, 1987). An additional illustration is provided by William James's statement: "I have found by experience that what my hearers seem least to relish is analytical technicality, and what they care for is concrete practical application. So I have gradually weeded out the former, and left the latter unreduced. . . . In taking my cue from what has seemed to me to be the feeling of the audiences, I believe that I am shaping my books so as to satisfy the more genuine public need" (quoted in Vidich & Lyman, 1985, p. 68). Compare this statement with the definition of rhetoric at the beginning of this note.

- 6 Contrary to frequent denials, such as Clark Hull's (1943) strenuous (and ironic) argument against argumentation in science (pp. 7–9), science obviously *does* aim to persuade. Despite his own "mechanomorphic" metaphors (e.g., pp. 27–8), Hull, like so many other scientists, suffered from "tropophobia" as well as "rhetorophobia." (The poet Donald Hall, 1985, defined "tropophobia" as the "fear and loathing of metaphors.") However acute and misplaced, Hull's concern about rhetoric in science was not completely without cause. There are, in fact, a variety of ways of arguing and trying to persuade, and surely many types of discourse have less precise and less exacting standards and procedures than does science. Still, argument or persuasion is nonetheless what the scientific process aims toward. Even Rudolf Carnap, the premier logical empiricist philosopher of science, had no problem accepting this: He began his classic work on *The Logical Structure of the World* (1928/1967) with an unapologetic acknowledgment that the purpose of a scientific work is "to persuade the reader

of the validity of the thoughts which it presents" (p. xv). To clarify the forms and means of scientific persuasion is what the rhetoric of science is all about.

- 7 As mentioned in my earlier chapter, one of the issues worthy of further study is the following: What might be gained by making finer discriminations between metaphor and other figures of speech and thought in the analysis of the ways in which such figures have constituted, supported, and influenced psychological theory and practice? It would also be useful to pursue more detailed analyses of the different functions that metaphors can and have performed in the history of psychology. To name only a few of these functions, some of which have been noted in the preceding chapters, metaphors can be descriptive or explanatory, illustrative or constitutive, informative or evaluative, revealing or masking, enriching or deforming. This list of functions should not be taken as even approximately definitive, nor should the *or* in these pairings be taken as indicative of categorical or absolute distinctions. Seemingly "descriptive" or "illustrative" metaphors, for instance, need not be simply (i.e., neutrally or passively) "communicative" – they may actually help to *constitute* the "object" or "event" to which they refer and/or imply (i.e., tilt the balance toward) a certain type of explanation or a particular form of practical intervention. Nineteenth-century analyses of the "irrational mob" and twentieth-century discussions of "hyperactivity" may serve as examples.

Other important issues for future study revolve around the classic "Kantian," "Peircean," and "Jamesian" questions: How is metaphor possible *at all*? What makes a particular metaphor more *apt* – and more *probable* to occur – in any given context? And how are the *multiple dimensions* of rationality, including the aesthetic, moral, and practical as well as intellectual dimensions, brought to bear on the assessment of the truthfulness of metaphors? How metaphor works, the nature of the constraints delimiting its operation, and the entire set of issues related to the nature and attribution of "truth" are all relevant to future inquiry along the lines established in this volume. Fortunately, contemporary researchers from many disciplines – from linguistics, psychology, and philosophy, among others – are advancing our understanding of these matters and thus preparing the way for a fuller understanding of the role of metaphor in the history of psychology.

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