Abstract

The belief in the possibility of unified knowledge, and the value placed on achieving contact with that unity, are proposed as the driving forces behind the search for integrated knowledge. A fundamental human impulse, underlying all academic disciplines, is to reach beyond the obvious to attempt to contact the ultimate reality beneath the surface of immediate experience. This quest rests on a belief that the universe is coherent and organized, that particular events are a manifestation of an important unmanifest reality and that the highest human value lies in making contact with the unmanifest. The process involves seeking coherent entities as recurrent themes among particular events, and there is no fixed method by which new knowledge may be generated or proven valid. Since the unmanifest reality may unfold in yet unknown ways, the quest must remain unfulfilled, and all interpretations must be seen as approximations to the truth. To elevate any interim conclusion to the ultimate is idolatrous, and truncates the search. Approaching knowledge propositionally, using a plurality of methods and information, and adopting an anarchistic, comprehensivist stance, can serve to support the quest.

Seeking Unity Within Diversity

David Bakan (1966, 1967), suggested that the broad range of approaches that humans have taken to acquiring knowledge, including the natural and social sciences, philosophy, the arts, humanities, and religion, express a fundamental human impulse to appreciate the nature of existence and the possibility of transcending any particular expression of that nature. He described three central beliefs that recur among these various modes of investigation. First, there is the notion that the Universe is whole, integral, and unified, in spite of its apparent diversity. Second, there is a distinction between what is apparent or manifest and that which is not, and the belief that the manifest is influenced by the more fundamental, unmanifest, realities. Third, there is a belief that by following appropriate procedures and practices, whether empirical, logical, or contemplative, it is possible to reach out to make contact with this more ultimate reality. The highest value is placed on the possibility of knowing this unity because it has the potential for yielding direct contact with ultimate truths that are universal and eternal. As expressed by Spinoza, "(t)he Greatest Good is the knowledge of the union which the mind has with the whole of nature."

The theme of differing modes for seeking ultimate understanding is also found in St Bonaventure's three methods of attaining knowledge, or "eyes of the soul" (Wilber, 1983). The empirical, "eye of the flesh" of science, the symbolic, "eye of reason" of philosophy, mathematics, and logic, and the transcendent, "eye of contemplation" of religious knowledge,
each represent a different approach to the same fundamental task of seeking knowledge of unity. In each, the search is guided by a belief that the more fundamental knowledge lies beyond the manifest, and there is a set of procedures by which the practitioner may develop the skill to acquire the knowledge of the field, to verify the validity of that understanding, and to extend the boundaries of what is known.

Although various "eyes" and specialty disciplines have differing goals, assumptions, and methods, the underlying pattern is the same. For example, the physical scientist believes that the universe is orderly and that it is possible to discover the general laws that govern physical reality. The mathematician emphasizes the orderliness of human thought and provides methods for attaining such order. The philosopher believes in attaining the "ideal," whether in form, conduct, or argument. The humanist believes that literature, history, or art express universal human themes that reach beyond any particular work or individual. The theologian addresses questions of ultimate concern, and the mystic seeks the directly apprehended experience of the ultimate.

Idolatry and the Fundamental Human Impulse

Bakan (1966, 1967) described the danger of idolatry in the search for unity. He emphasized that the fundamental human impulse is an unending quest for reaching toward the unmanifest. While the impulse moves toward fulfilling an objective its essential expression is the movement in that direction and not the goal itself. In the desire for fulfillment, there is a tendency to accept as the final answer a particular example of an approach toward pursuing fulfillment. When that happens, the sense that the unmanifest exists is lost, as is the quest for it, and a particular manifestation becomes "worshipped" as an end in itself. "One must always be filled with the sense of that which is not yet realized. One must always yearn to ward fulfillment, but fulfillment must be maintained as an ideal (Bakan, 1966, p. 7)."

The Human Construction of Knowledge

George Kelly (1955), in his Psychology of Personal Constructs, suggested that it might be interesting to view people as if they were each "personal scientists." Each individual attempts to make sense of experience by construing recurrent patterns among particular events, seeking the larger themes and thus transcending the obvious. Kelly proposed that knowledge is not "given" by the environment, nor does it involve "discovery" of something pre-existing but hidden. Instead, knowledge is a human invention, something actively constructed as a way to impose order on experience by comparing and contrasting the recurrent qualities among the endless variety of events.

Kelly's approach is based on the philosophical assumption that knowledge, since it is constructed by humans rather than given, is subject to change as understanding evolves. He called this assumption constructive alternativism, the proposition that all interpretations of the universe are liable to revision or replacement in the light of new awareness. Evolution and elaboration of knowledge does not consist solely of the addition of new details, but often involves a radical shift in perspective as to how old truths are seen. This view is consistent with
Kuhn's (1962) description of the process of revolutions in scientific thought, and their consequences to the disciplines, and can be extended from science to all human knowledge.

In elaborating this assumption, Kelly suggested that as constructions change what seemed certain and important may become trivial or false in the light of new understanding. It is useful to take the position that current understandings are tentative and ad interim, with exact correspondence between reality and human construction of it to be achieved at some infinite point in the future. Kelly applied this injunction to his own theory.

The theoretical statements propounded are no more than partially accurate constructions of events which, in turn, are no more than partially perceived. Moreover, what we propose, even in its truer aspects, will eventually be overthrown and displaced by something with more truth in it. Indeed, our theory is frankly designed to contribute effectively to its own eventual overthrow and displacement (Kelly, 1979, p. 66).

This position reflects the themes of the unending quest and anti-idolatry.

Avoidance of idolatry may be assisted by casting interpretations in a propositional or invitational mood (Kelly, 1964), in contrast to the normal indicative mood which confuses objects with the words used to describe them. For example, one might ask, "Suppose we regard Einstein as a theologian?" The invitational mood uses language in the form of an hypothesis, leaving both the speaker and listener with an expectancy rather than a conclusion, and suggest that the event is open to a variety of interpretations. This perspective consciously acknowledges that human interpretations are invented, not "given" properties of events, and encourages the probability of considering alternative perspectives.

This propositional stance may also be taken toward the specialty disciplines themselves. Kelly suggested that the various disciplines, as constructed systems of understanding, do not possess exclusive rights to any particular domain of events. The universe holds no allegiance to our construction systems, and thus the events we wish to understand are not themselves biological, sociological, or theological. To suggest otherwise is to elevate a particular theory, method, or discipline to an idolatrous level. Any event is open to interpretation from a number of perspectives and it is not necessary, Kelly suggested, to disprove one interpretation in order to entertain an alternative. Applying the invitational mood, for example, one might ask, "Suppose we consider the structure of the atom as a subject for study by the humanities?"

Constructivist theories of human development (Kegan, 1982; Piaget, 1970; Wilber, 1980) propose that human understanding is hierarchically organized into systems and subsystems, with more abstract, superordinate, constructs subsuming the more concrete, subordinate. As knowledge becomes elaborated existing understanding may be incorporated into more comprehensive modes of thought. What was previously the highest order of construction may become a component within a new, higher order, system. Each emerging higher order structure is more comprehensive and more inclusive than its predecessor, and can incorporate a greater variety of events, some of which may yet be experienced in the future, within its range (McWilliams, 1988a).
Movement toward unified knowledge involves increasingly more comprehensive constructs that can incorporate a wide range of events and admit new elements. For example, the individual raised in one religious practice may develop a concept of religion that only encompasses the characteristics of that practice. Other religions may be excluded from the construct, and labelled "heathen." If a second faith comes to be understood more sympathetically, the construct of religion may be broadened to be more abstract, with the capacity of subsuming both practices, and may also allow for the admission of still unknown elements, which may, in turn, broaden the concept even further.

Faith and Commitment to Incipient Knowing

Michel Polanyi's (1958) theory of knowledge echoes the view that unified understanding transcends the immediate.

. . . (T)he discovery of objective truth in science consists in the apprehension of a rationality which commands our respect and arouses our contemplative admiration; . . . such discovery, while using the experience of our senses as clues, transcends this experience by embracing a vision of a reality beyond the impressions of our senses, a vision which speaks for itself in guiding us to an ever deeper understanding of reality (p. 5, 6).

The construction of new understanding, as seen in scientific discovery, is grounded in a process that begins with the knower's incipient awareness that a set of particulars that have previously been perceived as separate and unrelated may be a manifestation of a possible higher order entity that is currently hidden (or unmanifest). This awareness leads to the subordination and incorporation of the immediately manifest "facts" as meaningful components of a more comprehensive concept expressing a more fundamental reality. The earlier facts, or "particulars," that were originally the focus of awareness come to be seen subsidiarily, as components of the newly emerging focal awareness of the higher order entity. For Polanyi this act of comprehension is irreversible, because once a coherent entity is understood it is not possible to return to seeing the particulars as unconnected events.

This inchoate knowledge involves a conviction of having established contact with a deeper reality, and the position that this new entity is universally valid.

I declare myself committed to the belief in an external reality gradually accessible to knowing, and I regard all true understanding as an intimation of such a reality which, being real, may yet reveal itself to our deepened understanding in an indefinite range of unexpected manifestations. (Polanyi, 1969, p.133)

The belief, for Polanyi a "fiduciary act" held on faith, may be tacitly held long before the knowledge can be articulated or proven. The commitment to the importance of clarifying this universally valid entity drives the honesty of the search for elaboration and requires the knower to submit to the reality of the entity as it unfolds. The more comprehensive entity, as an example of the "unmanifest" influencing the "manifest," has a potential range of implications that extend beyond the originally perceived manifest events. On further exploration and articulation it may emerge as something quite different from what was originally construed and
thus require a revision of the original construction. If the unmanifest entity is truly comprehensive, it may elude exact description indefinitely.

Polanyi's approach, as with Bakan and Kelly, emphasizes the belief in moving toward contact with a deeper reality, the value of establishing that contact, and the awareness that human understanding is always incomplete. Thus, it also reinforces the importance of avoiding idolatry toward any interim expression of the entity and supports the use of propositional thinking and openness to alternative constructions.

Anarchism, Pluralism and Comprehensivism

The philosophy of anarchism (Pennock & Chapman, 1978; Read, 1971) represents a useful metaphor with which to describe the need for freedom and plurality as factors that facilitate continuing elaboration of human understanding (McWilliams, 1988b). The term anarchy usually elicits images of violence, chaos, and disorder, but etymologically it simply means "without ruler." It opposes the codification of human conduct into laws, structures, and institutions, which, when followed blindly, come to inhibit, rather than support, human progress (Sarason, 1976). Pursuit of integrated knowledge requires an anarchistic approach toward rules that would rigidly codify and constrain the search (McWilliams, 1989). Anarchist philosophy advocates insurrection, the "throwing-off" of existing ruling structure, as the vehicle for implementing its aim of freedom and equity. In a useful metaphorical sense, insurrection is an antidote to idolatry, since its aims are essentially iconoclastic.

Feyerabend (1978) proposed a theory of knowledge which he called epistemological anarchy, based on historical evidence showing that reliance on methodological rules often has hindered scientific advancement. He demonstrated that, in actuality, progress in knowledge has not followed unchanging rules and principles, and major growth in knowledge often followed violation of the rules. Feyerabend rejected the notion of a fixed method or theory of rationality, and suggested that the only principle for furthering knowledge that can be supported in all instances is "anything goes."

A particularly insidious form of idolatry is methodolatry, the tendency to "worship" a particular method of exploration for knowledge (Bakan, 1967). For example, the relation between "real science" and psychological investigation may be compared to that between "real cowboys" and children playing at being cowboys. With an emphasis on following particular rules of "scientific methodology," psychologists imitate what they believe to be the behaviors of scientists without doing the most essential thing that scientists do, which is to pursue their questions directly and creatively. Kelly (Maher, 1979) raised a similar concern when he suggested that rather than trying to obtain scientific respectability by following certain "approved" methods, psychologists should invent their own creative approaches to confronting their subject. He believed that if such exploration led to meaningful results, the scientific community would be quick to embrace it. Feynman (1983) echoed this perspective, saying that the social sciences will not be accepted as scientific simply by following certain methods; they will become sciences when they "find something out."

Methodolatry is an affliction for which the sciences, and particularly the social sciences, are at high risk, although other disciplines are not immune from it. Although it may appear to lead to
immediate progress within a narrow domain of normal science (Kuhn, 1962), the use of a fixed methodology for scientific investigation ultimately inhibits progress. As Polanyi indicated, it is impossible to specify strict methodological rules that can justify new ways of understanding. There can be no "fixed framework within which the re-shaping of our hitherto fixed framework could be critically tested (1958, p. vii)."

Adherence to a discipline's paradigm (Kuhn, 1962) involves more than rules of methodology. It also tends to support certain assumptions about what is an important and legitimate problem and holds up particular works as exemplars of the paradigm. Every field has its "canons" that are referred to with great reverence. Knowing and adhering to these assumptions and models is part of the socialization of the discipline, and an approach that violates them will dislodge the investigator from membership in the disciplinary community. A pluralistic approach to knowledge suggests that comprehensive understanding involves seeking the major underlying themes toward which great works point, and that there may be alternative works and methods that also direct attention toward these underlying themes.

To avoid idolatry and be continually open to alternative perspectives, the pluralistic search for unified knowledge must be open to using all sources of information and irreverent toward any particular "fact," theory, method, or disciplinary perspective. The universal nature of this quest, together with the recognition that the universe holds no loyalty to any particular construction of it, requires allegiance to no disciplinary boundaries nor recognition of disciplinary proprietorship of any particular component of knowledge. If truth is unified and integral, the search for knowledge must allow the seeker to search for incipient understanding wherever it may be found. Knowledge generated within specialized disciplines may be used as the particulars through which to seek the unifying themes. The process must be free to cross disciplinary boundaries and not be constricted by rules or assumptions that the discipline members must, by virtue of their identification with the discipline, naturally uphold. In order for the search for unity to be maximally comprehensive, it must be consciously adisciplinary.

There is a rich and varied vocabulary for discussing "nondisciplinary" ways of investigation and each has its proponents and its limitations (Klein, 1990). The comprehensivist approach of Buckminster Fuller could serve as an appropriate model for seeking the most comprehensive way of approaching a question or a problem without the constraint of specialization. The comprehensivist is someone who "specializes" in pursuing knowledge from the broadest possible perspectives, without disciplinary limitations (McWilliams, 1987).

Fuller expressed his belief in the search for unity through the construction of general principles in his own inimitable style.

. . . (T)he great, complex integrity of omnicoordinate and interaccomodative yet periodically unique and nonsimultaneously cooperative generalized principles, and their myriad of special case realizations, all of which we speak of as Universe and may think intuitively of as God, is an intellectual invention system. . . (1979, p. 18).

Fuller (1981) was highly critical of disciplinary specialization, believing that it was originally instituted to support the interests of a power structure, and keep intelligent individuals from knowing too much, and that it discourages comprehensive thinking. Children naturally have
comprehensive interests and ask the most comprehensive questions, but they are encouraged to become specialists or experts and pursue narrower interests. He described the approach of the U.S. Navy prior to World War I as a rare example of a situation in which the brightest individuals were trained to be comprehensivists rather than specialists. Prior to worldwide telecommunications a ship's officer had to understand all facets of naval operations including a ship's structure and mechanical operations, worldwide navigation, and global warfare strategy. The value in our specialized educational system, according to Fuller (1979), lies not in the "special case" information learned from a particular discipline but from the "side effects" of learning about the interrelatedness of events. The comprehensivist consciously seeks the synergistic interrelations, "identifying all the most uniquely economical inter-relationships of the focal point entities involved (1970, p. 61)," and Fuller's own rich contributions used information from a wide range of disciplines.

Interdisciplinary Reflections

This presentation has focused on several themes regarding unified knowledge and its relation to disciplines, and its perspective can be placed within the broader context of Klein's (1990) discussion of interdisciplinarity. Its aim is synoptic, with a goal of integrated, comprehensive understanding of the unity of knowledge rather than an instrumental or pragmatic objective, and it encourages the highest levels of integration and synthesis. It would align with the "transdisciplinary" approaches in its advocacy of breaking disciplinary boundaries and disobeying the manners and rules of disciplinary conduct. It remains consciously ambivalent regarding the value of the specialty disciplines in the pursuit of unified knowledge. They have value in their ability to generate new knowledge but they can to be limiting in their tendency to discourage cross-disciplinary integration or rapprochement with other points of view. Disciplines may be seen as of value to the extent that their knowledge may be subordinated within a larger framework.

An issue that must be acknowledged by the open-minded approach of the individual who is anti-idolatrous, constructive alternativist, epistemological anarchist, and comprehensivist, is the danger of approaching the quest without "discipline" in its literal sense of self-control, intellectual standards, and clear-thinking. As Klein (1990) indicated, traditional disciplines have ". . . a stable epistemic community and agreement upon what constitutes excellence in a field (p. 107)." The burden on those who would be adisciplinary is to maintain a critical stance and avoid the tendency to succumb to superficial understanding. The interdisciplinarian's " . . . capacity to look at things from different perspectives (and) . . . the skills of differentiating, comparing, contrasting, relating, clarifying, reconciling, and synthesizing (Klein, 1990, p. 183)," if properly and honestly developed, should assist in maintaining the responsibility of the quest.

This presentation is itself a modest example of an attempt to take a comprehensivist approach to the investigation of the pursuit of unified knowledge. It rests on a personal commitment, held on faith, that the Universe is integral, that there are important unmanifest realities, and that it is possible, and desirable, to pursue knowledge of these eternal universals. Through the various works of Bakan, Kelly, Polanyi, Feyerabend, Fuller, and others, recurrent patterns and themes have been identified, supporting this commitment, warning against the arrogance of believing that any truth is final, and encouraging freedom, independence, and flexibility in the unending
quest for the further articulation of these themes. There undoubtedly are alternative ways to construe the issues and the works cited, and other individuals would have interpreted them differently. Continuing attempts at more comprehensive understanding will likely lead to an enlarged, revised, and ultimately alternative, perspective.
References


