Chapter 4

SCHOLARSHIP OF SIGNIFICANCE: THE INTEGRATION OF KNOWLEDGE

While serving as a regent of the University of California, the anthropologist, Gregory Bateson, wrote to his fellow board members: "Break the pattern which connects the items of learning and you necessarily destroy all quality." It is "the pattern which connects," he said, that is sorely missing from the scholarship presently receiving recognition and reward in American higher education. To call for a pattern of patterns--as the ecologically conscious Bateson does, is perhaps too much. But the priorities of disciplinary specialization have been pressed much too hard and--buttressed by the protective machinations of the departmental structure--much of what passes for scholarship is fragmented and disconnected.

Across higher education there is a profound need for scholars with the capacity to bridge disciplines, to integrate, to synthesize, to look for new relationships, and to fetter out patterns of meaning that cannot be seen when viewed through traditional disciplinary lenses. This is not a call for the "gentleman scholar" of an earlier time, or the dilettante who dabbles here and there, but broadly educated men and women who are serious about making the kinds of scholarly connections so much needed in our time.

The need for scholarship focusing primarily on patterns which connect is evident on every hand. A new appreciation for

the scholarship of integration is particularly pressing in the specialized disciplines themselves. It is also urgently required before we can begin to respond in a serious way to the call for the reform of the undergraduate experience. The most recent efforts at college reform will continue to sputter along--not getting off the ground in most places--until we are willing to reassess what is valued as faculty scholarship. The constantly beleaguered interdisciplinary programs that are much needed, such as urban studies and creative efforts dealing with the interrelationship of science, technology and values, will continue on their anemic way until we enlarge our notion of scholarship to include the integration as well as the advancement of knowledge.

Even within the boundaries of the traditional disciplines, specialized work on the leading edges of what we know is not enough. Jaroslov Pelikan, in his important essay on Scholarship and Its Survival, contends that: "The difference between good scholarship and great scholarship is, as often as not, the general preparation of the scholar in fields other than the field of specialization." It is that broader capacity to make connection, to place in context, to relate to a larger frame-of-reference that sparks the imagination or triggers the metaphor illuminating specialized data in a revealing way.

To limit what is regarded as scholarship to specialized research is to neglect the essential scholarly task of integration made necessary by the extension of specialization itself. Just as greater specialization is the inescapable

concomitant of the growth of knowledge, so is integration. Specialization without reintegration leads inevitably to fragmentation. Within discipline after discipline the question of fragmentation--disconnection--is being raised.

It is in literary studies that the issue is being pressed most pointedly. In an openly polemical work entitled Reconnection, Betty Jean Craige traces the history of the humanities: the dividing of knowledge into disciplines, the rewarding of specialization, the distancing of the humanities from one another, from other areas of scholarly inquiry, and from dilemmas of the world outside academia. She calls for a more holistic approach to learning, reconnecting literary studies with history and philosophy, with science and politics, and restoring literature again to its central place in our intellectual discourse and social debate.

While there is a national call for the redirection of scholarly endeavor in the humanities, the social sciences are going through what Clifford Geertz sees as a fundamental "refiguration." His influential essay, "Blurred Genres" traces what Geertz sees as:

> . . . a phenomenon general enough and distinctive enough to suggest that what we are seeing is not just another redrawing of the cultural map--the moving of a few disputed borders, the marking of some more picturesque mountain lakes--but an alternation of the principles of mapping. Something is happening to the way we think about the way we think.

The integrity of disciplinary boundaries as we have known them is being questioned at every turn. The traditional structures of knowledge are being challenged, in some instances because basic areas of scholarly inquiry have shifted their ground (Geertz's argument), but in other instances the shift has been driven by a pragmatic response to alterations in the market--new funding priorities or enrollment profiles.

There has been an intellectual sea change in American higher education. One needs merely to compare the fortunes of the humanities disciplines over the past decade with those of the emerging multi-disciplinary fields such as business and communications. It is ironic that these fields, abundantly rich in their potential for releasing a flood of imaginative exchanges across traditional disciplinary boundaries, have become--for political reasons, not intellectual--turf-protecting disciplines themselves.

Take as an example the recently formed discipline of communications. Here is an interdisciplinary field that invited provocative, open exchange between established disciplines in the humanities, social and behavioral sciences, and even physics and biology. At a time when we needed the opportunity and stimulus to break out of our specialized enclaves, this vital field was expanding rapidly and offered enormous promise. The stage was set for stimulating cross-disciplinary inquiry and debate over issues that mattered--significant scholarship. Instead, the field of communication was fenced off and boundaries were erected to define it as a discipline in its own right.

Disciplinary graduate programs surfaced, associations formed, journals appeared, and a communications faculty was established. Rather than a broad, multi-faceted debate over substantive intellectual issues, the exchange became politicized as the new communications department set out to establish its curricular jurisdiction and academic "turf" over against the established claims of English, psychology, sociology, and the burgeoning programs in business administration. The academy was not well served, and certainly not the students or the intellectual life of the society.

The economic recession in higher education has exacerbated the self-protective proclivities of the disciplines. The self-serving character of the barricading of the disciplines has, however, become transparent and patience is running thin. With his characteristic optimism, Alvin Toffler turns this widespread discontent into a promising vision of the future:

> Today. . .we stand on the edge of a new age of synthesis. In all intellectual fields, from the hard sciences to sociology, psychology, and economics--especially economics--we are likely to see a return to large-scale thinking, to general theory, to the putting of the pieces back together again. For it is beginning to dawn on us that our obsessive emphasis on quantified detail without context, on progressively finer and finer measurement of smaller and smaller problems, leaves us knowing more and more about less and less.

Recently, there also has been a ground swell in higher education calling for the acknowledgment of the legitimacy of a different way of knowing.

Gustavus Adolphus College, the Minnesota school founded by Swedish immigrants, has an annual Nobel Conference. The 25th annual meeting held recently took as its provocative theme "The End of Science?" The conference attempted to address the ground swell of interest in ways of knowing different from the established notions of positivistic science that continue to influence what is regarded as legitimate scholarship. Rather than the "value-free," objective, analytical approaches that have been established by the successes of the natural sciences, many are arguing that much of our knowledge is rooted in contexts and connections, that relationships and communities fundamentally influence the ways we know.

At the Nobel Conference, Mary Hesse, a philosopher from Cambridge University, stated the case most baldly:

> Clearly the whole imperialistic aim of theoretical science to be the royal and single road to knowledge has been a profound mistake. Perhaps we should be looking in another direction. Scientific theory is just one of the ways in which human beings have sought to make sense of their world by constructing schemas, models, metaphors, and myths. Scientific theory is a particular kind of myth that answers to our practical purposes with regard to nature. It often functions as myths do, as persuasive theoretic for moral and political purposes (NY Times, Oct. 22, 1989).

We conclude that the narrow view of scholarship currently in place has precipitated a major epistomological debate cutting across the disciplines. Our concept of scholarship needs to be enlarged to encompass not only the broader set of scholarly tasks with which most faculty grapple day-to-day, but it must also be large enough to account for a wider array of ways in which knowledge is perceived, processed, and utilized.

Certainly, knowledge comprehended through objective reasoning and analytical theory-building must be acknowledged and honored, but knowledge apprehended through connections grounded in human community--relational knowing--must also be seen as legitimate. Also, knowledge rooted in scholarly reflection and observation has its place, but so does knowledge generated out of active practice--engagement in the world. There is much that we need to learn from the wisdom of practice.

We should urgently insist that scholarship have as one anchor point the discovery of new knowledge--what has come to be known as original research.

But the nineteenth century Germans most frequently credited--or blamed--for the creation of the conception of the research scholar had, in fact, a broader view. Even the German word Wissenschaft is more inclusive than the English word "science;" it included a component of scholarship which is not part of its Anglo-Saxon meaning. In early pronouncements about the central purposes of the American research university, references were frequently made to scholarship <u>and</u> research. Scholarship referred to the integrative background work done by scholars as a

necessary prelude to quality research and teaching. In these earlier contexts, scholarship served as the bridge to teaching and the grounding required for research. Scholarship was also more qualitative, characteristic of the work of scholars in the humanities as distinct from the quantitative precision found in the natural sciences.

With the enormous success of the sciences and the intensification of specialization in most disciplines in the post-World War II years, scholarship became research--the legs on the professor's professional stool became only three: research, teaching, and service. Scholarship as a more inclusive category atrophied in American higher education where research had risen to new heights, not only in productivity, but in prestige.

This call is emanating from disparate places, but emerged early among those concerned with teaching and the learning process. The non-traditional students--older students, women, minorities--went about learning in a different way. Rather than respond to the abstract, objective, analytical approach to knowing that has been most prevalent in the classroom, they began to press for connection, attend to context, and call for the recognition of the relational character of knowing. Responsive teachers began to experiment with more collaborative approaches to learning and older arguments for experiential learning were refurbished.

That our realities are socially constructed has been a perennial theme among sociologists. They took their lead from Max Weber and Emile Durkheim and social psychologists building on

the work of George Herbert Mead. But popular awareness of the contextual character of what we know was sparked by the publication of Thomas Kuhn's Structure of Scientific Revolutions, some twenty years ago. His conclusion that scientific knowledge is "an intrinsically common property of a group or else nothing at all" generated widespread debate. The philosopher, Richard Rorty, drew together the ideas of Dewey, Heidegger and Wittgenstein in his book Philosophy and the Mirror of Nature, to press beyond Kuhn to argue that not only is scientific knowledge a social construct but all knowledge is grounded in communities of knowledgeable peers. Clifford Geertz provides ethnographic support for this contention and states conclusively: "Human thought is consummately social: social in origin, social in functions, social in its form, social in its application."

Woman's Way of Knowing

No account of the new interest in connected knowing would be complete without reference to the new scholarship generated by the women's movement--a forceful and prolific scholarship that has finally emerged, to use George Eliot's words, "on the other side of silence." Serious and influential scholarship on women--and particularly gender-based studies of moral and cognitive development--appeared at the same time the number of women in higher education was increasing dramatically to become, in fact, the absolute majority.

Two books have been particularly influential in drawing attention to a more contextual, relational, connected view of

scholarship. Pivotal here is Carol Gilligan's research on moral decision-making, In a Different Voice. The other is a study of women's cognitive development by Mary Belenky, Blythe Clincy, Nancy Goldberger and Jill Taruke entitled Women's Ways of Knowing. In these, and related studies, a persuasive case is made for a different approach to knowing that is gender-based.

While the established "male" perspective is characterized as "separate" knowing, requiring analytical distance from the subject, and being more individualistic, critical and competitive, women are found to be more interactive in their approach to knowing. Relationships become central and context is pivotal. "Connected" learning has been characterized as an experience in which:

> . . . bonding precedes learning, and learning precedes judgment. Learning occurs in a community that establishes bonds of caring and in which people are assumed to bring important abilities and knowledge to the learning experience. The mode of understanding is empathetic and believing: the connected approach requires the learner to attempt to understand fully a theory (or person) before judging it.

The best illustration of this different approach to scholarship is found in Evelyn Fox Keller's account of the scientific work of the pioneering plant-geneticist Barbara McClintock. In A Feeling for the Organism, Keller graphically describes McClintock's approach to scientific inquiry where the emphasis is not on objectivity and detachment--the separation of the knower and the known--but on involvement, empathy and feeling.

> Over the over again, she tells us, one must have the time to look, the patience to "hear what the material has to say to you," the openness to "let it come to you." Above all, one must have a "feeling for the organism."

In addition to an appreciation for the relational character of knowing, Barbara McClintock also demonstrated the importance of valuing the interrelatedness of life. Her biographer describes McClintock as having "exceedingly strong feelings" for the oneness of things:

> "Basically everything is one. There is no way in which you draw a line between things. What we [normally] do is to make these subdivisions, but they are not real. Our educational system is full of subdivisions that are artificial, that shouldn't be there. . . ."

Her biographer concludes: "The ultimate descriptive task, for both artists and scientists, is to 'ensoul' what one sees, to attribute to it the life one shares with it; one learns by identification."

The new scholarship by and about women is not calling for the abandonment of the more analytic, abstract, objective approach to knowing. The new majority in higher education is pressing, however, for a broader--a more balanced--view of scholarship, one that acknowledges the power of objective reasoning and analytical abstractions, but one that also builds on the strengths of what is learned through relationships, empathetic caring, commitment, and even, in the words of Barbara McClintock, "by identification."

Community and Knowing

While most of the scholarship on women calls for greater balance, Parker Palmer's influential work on community is openly polemical. Palmer has led the way in relating the growing concern with the deterioration of community in higher education to the central mission of the academy--the generation and transmission of knowledge. Palmer traces the erosion of community to the dominance of a "bloodless epistomology"--a narrow, constricted way of knowing. He goes on to argue that this way of knowing has become a way of living and writes:

> I believe that it is here, in our modes of knowing, that we shape souls by the shape of our knowledge. It is here that the idea of community must ultimately take root and have impact if it is to reshape the doing of higher education.

Palmer contends that the "objectivism" that permeates the established notion of scholarship undermines an inward capacity for relatedness and fosters an ethic of individual competitiveness that contaminates the scholarly lives of faculty and the educational experiences of most undergraduates.

Reform of the College

The Carnegie Foundation's College was one of several major national studies to call for the reform of undergraduate education. In fact, the 1980s will be remembered as a time of resurgence in the interest in college reform. Whether the

education of undergraduates will be substantially improved remains to be seen; much, however, has been done. The curriculum has been tightened; fundamental skills have been emphasized; attention has been given to what is shared in common--discussion of the core has been revived; the freshman year has become a focus for innovation; and the integration of knowledge, whether through interdisciplinary programs, value-oriented capstone courses, ethnic studies, or programs stressing global awareness, have become matters of special concern.

Whether all this activity represents fundamental reform is being widely debated and much attention is being given to the role of faculty. Jerry Gaff, in his comprehensive study of General Education Today, concludes: "I am convinced that the problem with general education is basically a problem with faculty." The Association of American College's Integrity in the College Curriculum focuses on "the responsibility of the faculty as a whole for the curriculum as a whole." Martin Trow, in his skeptical assessment of the reform reports, found the extent of the blame for the dismal state of undergraduate education being heaped on faculty amounting to a "rather gratuitous abuse of faculty. . . ."

The assignment of blame is not the point, nor should it be. The centrality of the role of faculty in the reform of undergraduate education, however, has been made crystal clear. And, we want to sharpen the focus on the faculty member's role as scholar and the kind of scholarship being valued and rewarded.

Most of the changes being called for in College and the other reports on undergraduate education require intellectual commitments to making connections, building bridges, and synthesizing knowledge into coherent wholes. Whether its the core of common learning in general education or even the "enriched major"--where the history and tradition of this field is presented, social, and economic implications pursued, and ethical and moral issues explored--the scholarly capacity for integration and taking the broader view is required.

Fundamental reforms that are both comprehensive and pervasive will require a different conception of scholarship. Until faculty are encouraged to give time and energy to the integration of knowledge, most of the reforms being recommended for the college will flounder. The topical or problem-centered seminars being recommended for both the freshman year and the senior capstone experience require a broad intellectual background and strong commitment to reaching beyond one's discipline. Addressing value questions, ethical issues, and the relationship between citizenship and the college as community call on scholarly talents and commitments that are seldom honored within the academy.

In a recent issue of the Phi Kappa Phi journal, National Forum, it is argued that because of the call for basic reform in the undergraduate curriculum, interdisciplinary studies are going to have an established niche in higher education--built into the new required curriculum. Given a previous experience with interdisciplinary studies this seems overly optimistic. The

permanent valuing of integration efforts on the part of faculty will only be insured when interdisciplinary work is admitted as a fully legitimate form of scholarship. The same can be said for general education. The Association of American Colleges' current report on general education is published under the title A New Vitality in General Education. The report claims that: "Working on the connections across fields or topics helps faculty articulate the nature and purpose of nonspecialized knowledge as well as teach more effectively." We are confident that this is one of the side-benefits of the recent resurgence in liberal studies. But, the "new vitality" of general education can hardly be sustained by this kind of on-the-job training. Integrative scholarship must be recognized and honored in the profession and its significance reflected in graduate school preparation and tenure and promotion policies. The reform of the undergraduate curriculum will require a fundamental reassessment of what is valued as scholarship.

It is particularly ironic that while the integration of the curriculum is being called for--interdisciplinary programs and an expanded general education--and marked gains are being made and celebrated, the pressure for faculty to engage in research publishable in specialized journals is intensifying. Faculty are being required to teach in a new curriculum organized around problems and themes dependent upon scholarly abilities to relate perspectives and make connections; while, at the same time, the reward system pushes them in another direction, toward greater specialization. It is no wonder that junior faculty feel that

the old teacher/scholar model, where faculty are expected to be first-rate on all fronts, is, in the present context, an "instrument of humiliation," as one first-year professor put it. Even the best perceive that they can hardly measure up, and almost all come up short in their own eyes, in one way or another. Bowen and Schuster, in their fine book on the American professoriate, are right in identifying the "grueling" pressure under which junior faculty work.

Textbooks and Synthesis

In most American college classrooms, synthesis--the integration of knowledge--is provided not by broadly educated faculty but by textbooks. It is the textbook that insures "coverage," that locates the subject in its historical and cultural context. It is the textbook that reaches out to other disciplines and makes the appropriate connections. It is the textbook that explores the ethical implications of a topic. Faculty are free to follow their own specialized interests, even in introductory courses, because elaborately illustrated, market-tested textbooks can be relied upon to make the connections.

This heavy reliance on the textbook is a particularly American phenomenon. Apart from the natural sciences, textbooks were never used at Oxford and Cambridge nor are they now. Students have access to fine college libraries where primary sources are readily available. It is the tutor with whom the student works very closely who provides guidance in relating the

parts to the whole. Selective liberal arts colleges in America follow this established pattern. American literature is not taught as a survey. Original works by Hawthorne, Melville, and Toni Morrison are read and faculty provide the context and relate the key works to the rest of the field. Political science courses call for the reading of Aristotle, de Tocqueville, and Mill and not a general text accompanied by a student guide, instructor's manual, a test bank, computerized test questions, and (lately) film and videotape packages.

In the best of worlds, there would be no textbooks. Students--even freshmen--would have access to books and articles written by the best minds in a wide variety of fields and those materials would provide the foundation for personal libraries on which they could build throughout their lifetimes. Broadly educated faculty would build bridges, relate the abstract to lived experience, and create environments where students could learn from the experiences and insights of one another. Hampshire College, for instance, has designed all of its introductory science courses, or "proseminars," as courses in inquiry where beginning students are expected to read primary research literature and to construct scientifically answerable questions. Ann Woodhull-McNeil, a biologist, writes:

> Why read original scientific papers with beginning students? These papers are the sources, so students can research anything once they know how to read such papers. The papers present a concrete experience that is similar to a laboratory; they reveal the nitty-gritty of science. Reading and discussing papers [in this way] enables students to understand the hypothetico-deductive method of science better than any

> number of passages in a text about "how science is done" (College Teaching, Winter 89).

Although there are persuasive pedagogical reasons for not relying on the textbook in colleges and universities, their use is pervasive. In fact, the production of college textbooks has become a major American industry. The widespread use of the textbook in the American college classroom has three primary roots. The first is the precedent set by the use of the schoolbook in the 19th century common school and the pivotal role it was assigned in American society. The schoolbook was a major source of moral education and the anvil on which the national character was to be hammered out. Ruth Elson establishes this contention in her book with the telling title Guardians of Tradition. Many of our major comprehensive universities were originally normal schools (colleges of teacher education) and the community colleges were often formed by public school districts. In both these institutional settings, the textbook tradition has an honored place.

The use of the textbook also has its rooting in the American commitment to making education available to the majority of the nation's citizens. As an 1807 schoolbook put it:

> Our government and habits are republican; they cherish equal rights and tend to the equal distribution of property. Our mode of education has the same tendency to promote an equal distribution of knowledge, and to make us emphatically a "republic of letters" (Elson, p. 222).

It was this same early American dream of an educational citizenry that inspired the expansion of higher education in the post World War II period leading to "open-door admissions" and the inclusion of a diverse student population. Large classes of students who were both underprepared and varied in their background and preparation fueled the textbook market.

The third factor contributing to the prominence of the textbook in the American classroom is the professional specialization of the faculty and the narrow view of scholarship that accompanies it. These factors combine in the contemporary context to create an intolerable situation where we have both heavy reliance on the textbook and deterioration in the quality of the texts being produced.

The dominant view of scholarship where integration and the synthesis of knowledge is not particularly valued encourages dependence on the text; while at the same time, those most capable of writing richly textured comprehensive texts are discouraged from doing so. According to the prevailing view, real scholars do not write textbooks--it is a serious detraction from research. The writing of textbooks is regarded as a commercial endeavor that indicates the scholar's lack of professional commitment. In her article on "The Academy's Contribution to the Impoverishment of American Texts," Harriet Tyson-Bernstein finds that ". . .the academy's disdain for those who write textbooks is enormous. That disdain is expressed not only in the mutterings of colleagues, but also by powerful institutional disincentives."

The current scholarly orientation of our faculty and the reward system of our institutions provides neither the incentive nor the intellectual breadth required to produce quality texts. In a recent article on "Why Study History?," Paul Gagnon traces the failure of textbooks to deal with larger questions in American history to the specialized character of historical scholarship. Few historians deal with wide sweeps of history, work on big themes, or synthesize the new specialized studies that keep being generated. He notes that "the pressure to specialize in narrow periods or techniques, coming from both the profession and the university, is formidable." Gagnon finds that even in the graduate programs, where academic historians are trained, only rarely are there courses dealing with synthesis and interpretive themes. There is a vacuum here in our scholarship that reaches across disciplines. If the integration of knowledge was both valued more highly and encouraged among faculty we would have better textbooks available, could use them where appropriate, and need them less.

Ethics and Values

The current view of scholarship has discouraged the exploration of broader ethical implications or value themes. The fields that have traditionally been responsible for maintaining a larger perspective and presenting an integrative view have been pressed by the dominate mode of inquiry to narrow their purview. Professional philosophy for a time stopped dealing with what most people regard as basic philosophical questions and

course in the college--that sought to provide intellectual integration and ethical footing. It was a course often taught by the president and required of all seniors, a course in moral philosophy. Douglas Sloan has described this course in the following way:

> The moral philosophy course was regarded as the capstone of the curriculum. It aimed to pull together, to integrate, and to give meaning and purpose to the student's entire college experience and course of study. In so doing it even more importantly sought to equip the graduating seniors with the ethical sensitivity and insight needed in order to put their newly acquired knowledge to use in ways that would benefit not only themselves and their own personal advancement, but the larger society as well.

Moral philosophy had an established, indeed, prestigious place in the liberal arts college of the last century and the field became an important source of origin in the development of several of the social sciences--political science, sociology, social psychology, and economics. The noted psychologist, Gordon Allport, had his first appointment at Harvard in social ethics. His landmark book On Prejudice reflects the deep moral concern shaping his work from the beginning.

During the opening decades of the present century, this firm commitment to the moral purpose of undergraduate education was overshadowed. It was replaced, in large measure, by an overwhelming confidence in the power of science. The rise of the fundamentalist movement also played a role in tainting efforts to sustain the 19th century commitment to moral education. Symbolically, the Scope's Trial dealt a mortal blow to serious public debate of the moral purposes of education.

In recent years we have virtually come full circle. College presidents are not teaching capstone courses in moral philosophy, but the topic is at the top of their agendas. Derek Bok, President of Harvard, has made ethics education a cornerstone of his administration. The universities responsibility "to help students live ethical lives," was the controlling theme of his recent report to the university's Board of Overseers.

In his 1986 inaugural address, the new president of Yale, Benno Schmidt, identified this development of moral purpose as the fundamental goal of undergraduate education. He suggested that the contemporary view of scholarship, with its focus on the neutrality of intellect, its abstractness, its remoteness from the problems and concerns of everyday life, may have been a factor in undermining the moral mission of higher education. President Schmidt goes as far as to imply a connection between a "disinterested" view of scholarship dominating the work of scholars internationally and the prostration of universities and scholars to totalitarian regimes.

Scholarship seriously committed to the integration of knowledge must of necessity raise the central value questions. This form of scholarly endeavor involves, as we said earlier, a different approach to knowing. Connection, whether interpersonal, social, physical, or spiritual, becomes a basis for knowing. Values inform rather than detract from the ways we know.

The conception of scholarship dominating faculty evaluation and reward systems continue to place priority on the abstract and objective, uncluttered by, what is pejoratively referred to as,

"value judgements." Scholarship can be readily discounted if tagged subjective or, worse, ideological.

Although there is in the humanities and the softer social sciences such an anthropology a growing recognition of the limitations of the natural sciences as a model for research, that model continues to serve as the dominant pattern and takes on special authority when qualitative decisions are being made on faculty tenure and promotion. When decisions become especially problematic, hard data drives out soft.

The motivation for resisting even the use of the term value is academic discourse is captured by the psychologist Robert White in his discussion of the relationship of science and values:

> Science has trouble with values. The scientist, setting himself the worthy goal of objectivity, which requires the overcoming of personal idiosyncrasy and preference, came to think of values mainly as sources of error, if not of opposition to the very cause of science" (1964, p. 322).

The development of science must be acknowledged as the modern west's most distinctive contribution to world culture. The natural sciences have experienced enormous success with their causal analyses; reliability and validity can be demonstrated.

Richard L. Morrill, in his important book on Teaching Values in College describes what happens to issues of value when the powerful explanatory tools of the sciences are brought into play.

> These analyses seek to break the event, including human events and moral standards, into ever smaller bits of information. We explain by decomposing the whole into its parts and providing quantifiable evidence to support our claims. The immediacies of factual experience grip our attention, leading to skepticism concerning any claims to discover structures and unities behind particulars. Such analytic explanation often is equivalent to "explaining away." In analyses of this sort, a human activity such as valuing--which takes place precisely through integrating beliefs, feelings, and actions--is difficult to grasp. The specific unified quality of valuing eludes the analyst (p. 60).

Getting beyond the positivist ideals of objectivity and disinterest is a primary challenge for contemporary scholarship. In both the humanities and the social sciences there have been significant intellectual gains in this regard. In the 1960s, this was the major struggle in the social sciences. Early in the decade, leading scholars in the social sciences claimed to be engaged in the "scholarship of civility," a scholarship that was, if not value-free, certainly "beyond ideology." During the Kennedy years, many of these same scholars joined the march to Washington, D.C., and moved into positions of incredible power and influence. In a series of articles published in Life Magazine in June 1967, Theodore White celebrated the new American action-intellectuals:

> In the past decade this brotherhood of scholars has become the most provocative and propelling influence on all American government and politics. Their ideas are the drivewheels of the Great Society: shaping our defenses, guiding our foreign policy, redesigning our cities, reorganizing our schools, deciding what our dollar is worth. . . . For such intellectuals now is a Golden Age, and America is the place. Never have ideas been sought more hungrily or tested against reality

> more quickly. From White House to city hall, scholars stalk the corridors of American power (quoted in Steinfels 1979, p. 280).

By the late 1960s, it became evident that much of this scholarship, far from transcending value commitments, was deeply rooted in firmly held interests. Knowledge and power were being mixed in ways that became publicly evident. Those arguing for a scholarship of civility, a scholarship that was objective and disinterested, a scholarship that could rise above ideology, found themselves involved in a process that was self-discrediting.

Back in this academy, young faculty and graduate students formed dissenting caucuses in the professional associations and called on their more established disciplinary colleagues to recognize that much of American scholarship had been shaped by and served the interests of narrowly select groups and that all knowledge is rooted in value contexts. The new scholarship produced by women, blacks, and representatives of various Third World groups strengthened the argument. Participants in a major conference on the "New Scholarship on Women" in 1981 argued that education itself is a profoundly political act, that what is studied, taught, and learned "controls destinies, gives some persons hope for a particular kind of future, and deprives others even of ordinary expectations for work and achievement" (Howe 1982, p. 28). In the social sciences, the old case for scholarship for its own sake had been profoundly challenged and the "end of ideology" thesis permanently set aside.

In a recent report from the American Council of Learned Societies, a similar--but more recent pattern--is traced in the humanities. The report concludes that ". . . the consensus of most of the dominant theories is that all thought does, indeed, develop from particular standpoints, perspectives, and interests." In an effort to make sense of the current discussion about what belongs in the humanities "canon," the ACLS report claims that the debate itself can be seen as:

> ". . .emerging from an ideological context since one of the results of the contemporary interest in theory and the critique of the foundations of knowledge in many disciplines has been the realization that all stances in scholarly research, as in the choice of values, imply a prior commitment to some basic belief system.

Intellectually, the case for a broader view of scholarship is already being made. That knowledge is relational--grounded in communities of commitment and belief--is widely acknowledged. The interdisciplinary character of so much of contemporary scholarly inquiry is also receiving growing recognition. Jeroslav Pelikan, while serving as dean of the Graduate School at Yale, went so far as to suggest that, for those preparing for advanced study, the undergraduate major should go beyond the discipline because of the "increasingly interdisciplinary character of scholarly research." In the sciences, a neurobiologist, writing the introduction of a book in his field, describes the subject as "new, multidisciplinary, and without boundaries." In the 1989 faculty survey conducted by the Carnegie Foundation for the Advancement of Teaching, respondents

were overwhelmingly supportive (81%) of multidisciplinary work as a legitimate form of scholarship.

Intellectually the ground has been prepared for an enlarged view of scholarship, one that would encompass the integration of knowledge. The resistances to such a change are primarily structural and political, rooted in the strong commitment to the discipline, the departmental structure, and institutional policies that support them.

Organizational Resistance

At the heart of "the academic revolution" about which Christopher Jencks and David Reisman wrote in the late 1960s was the discipline--the commitment to a body of specialized knowledge around which everything else is structured. The professional identity of most college and university faculty is disciplinary: "I am a psychologist," or "I am a physicist." During graduate school prospective faculty are socialized into the "lore" of the discipline. A kind of bonding takes place. The discipline has a body of literature, a mode of inquiry, and a history. Many faculty can trace their intellectual genealogies back to the founders of their disciplines; faculty offices are filled with totems of the discipline: books, pictures, and even charts of the lineage.

The strength of the discipline at the center of the profession is institutionally buttressed locally by the discipline-based departmental structure and in more cosmopolitan settings by professional associations (national and

international) that honor and reinforce commitments to the discipline. The intellectual bonding to the discipline, which is nurtured in graduate school, is institutionally reinforced at every turn.

In a context where academic professionalism and the discipline are firmly wedded and then institutionally embedded in the disciplinary department, interdisciplinary studies are by definition marginal. During the expansionist period in higher education, interdisciplinary programs reaching across and integrating disciplines could be added on to the periphery of institutions without threatening the disciplinary structure. During the 1960s, American studies, urban affairs, and various area studies programs flourished. Experimental "cluster" colleges focusing on interdisciplinary themes received much attention. But when budgets tightened in the 1970s, these interdisciplinary programs were the first to be eliminated. The more controversial programs focusing on the study of blacks, Chicanos, and women faced a discipline-based discrimination that was every bit as entrenched as the racism and sexism they were established to confront.

The disciplinary fortress that withstood these earlier assaults is now beginning to crumble in the face of a new interdisciplinary thrust driven by the demands of the market. Enrollment shifts from the arts and sciences to applied interdisciplinary programs in business, communications, and computer science are altering the basic character of colleges and universities. Confronted with this major structural shift,