This paper presents some views of several authorities on 4 current trends in higher education, and suggests that the direction of higher education in the seventies may be toward more effective management and organizational procedures that might improve instruction and learning. The trends are: (1) the accentuated search for ways of coping with the knowledge explosion; Gerald Hoyt and Gilbert Burck point out the significance of the "information explosion" in world history and the growing importance of knowledge in technically advanced nations. (2) the continued deterioration of liberal arts education; Lewis Mayhew opposes Clark Kerr's favorable evaluation of the British college-German research institute blend in US higher education, and calls the union of research and service functions the biggest problem facing the field today. (3) the acceleration of student unrest; Edward Shoben and James Michener identify main issues: Vietnam, racial injustice, middle-class values, and others. (4) the acceleration of faculty organization; Logan Wilson and Archie Dykes found that American Council on Education surveys reveal a widespread use of collective bargaining to determine faculty salaries and employment conditions, and faculty confusion about their role in governance. Another section presents the views of C.P. Snow on the process of change, and of John Dietrich, Everett Rogers, Richard Evans and Peter Lepmann on what innovation should be, how it should take place, and the characteristics of real innovators. (NM)
DIRECTIONS AND PROCESSES OF EDUCATIONAL CHANGE

IN HIGHER EDUCATION

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Today higher education is coming under public criticism, student attack, and faculty scrutiny as never before. Several reasons account for this situation. On the part of the public, rising costs of education on every level have brought about a more critical attitude toward the expenditure of funds, a rejection of the alleged academic sanctuary for "hippies" and the arrogant and irresponsible behavior by a relatively few extremists.

The faculty scrutiny results, in part, from the vast increase in the amount of research and development performed and/or administered by universities. Since World War II, annual research and development expenditures have mushroomed from less than $100 million to nearly $3.3 billion (including about $700 million for federal contract research centers operated by universities).

A related factor in closer faculty scrutiny is the increasing academic dependence upon the federal government for research and development funds. Federal agencies, which once accounted for only a negligible portion of university research support, now provide more than two-thirds of it. Considered incidental to teaching before the war, research has become just as important in most institutions of higher learning, and more so in large institutions. This has caused
greater competition for academic funds, and it has contributed to friction between the "researchers" and the "teachers."

Major Trends in the Seventies

Four of several major trends in higher education will be considered. In the interests of time as well as in terms of the focus of this paper, these important trends will not be mentioned: (1) continued expansion in numbers of students; (2) continued expansion of financial support, although with somewhat different bases; (3) acceleration of cost-benefit, cost-effectiveness approaches; and (4) acceleration of the public service function.

This chapter will consider: (1) accentuated search for ways of coping with the knowledge explosion; (2) continued deterioration in liberal arts education vis-a-vis the scientific area; (3) acceleration of student unrest; and (4) acceleration of faculty organization.

1. Accentuated search for ways of coping with the knowledge explosion.

Gerald A. Hoyt, general manager of General Electric's Defense Electronics Division, has written: "This so-called 'information explosion'... may well be more significant in world history than the Industrial, Political, and Economic Revolutions."

Burck has pointed out: "One of the most undercomprehended facts of our age is its huge and growing demand for knowledge. Just as the production and distribution of food is the major occupation of primitive and 'emerging' societies, the production and distribution of knowledge is the major occupation of technically advanced nations, and may approach half the total U. S. output by 1984... In 1963 the nation's total outlay for knowledge came to nearly $195 billion, up 43 percent in five years."  

2. **Continued deterioration of liberal arts education.**

The land-grant colleges in the early days broke radically with the historical pattern of liberal education, giving primary attention to occupational training, according to a Danforth Commission report. The expansion of knowledge and the admission of new subjects destroyed the unity of the older curriculum. The elective system, so widely adopted in the latter third of the nineteenth century, reduced the common core of undergraduate education. Another influence, even more pervasive, was the importation of the German university idea. The event which dramatized this innovation was the founding of the Johns Hopkins University in 1876—an institution consciously modeled on the great German universities. American universities had previously been undergraduate colleges in the British collegiate tradition, with modest graduate and professional

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programs appended. The new university pattern, however, gave priority to graduate study and technical scholarship. There can be no question that the research emphasis imported from Germany and now thoroughly imbedded in our university has, at its best, engendered a scholarly vigor and objectivity that were lacking in classical education. A critical spirit of inquiry was nurtured; nothing was to be immune from investigation, and there was no orthodoxy except the doctrine of the right to pursue the truth. The priority given to research has resulted in a great increase in knowledge, particularly in the sciences. These are important contributions directly attributable to the modern university.

But the German university tradition of the nineteenth century carried with it certain assumptions about scholarship which have caused some serious problems. Scholarship was conceived in technical, almost pedantic, terms, and the emphasis was on factual knowledge rather than on broader understanding. The attention of the graduate school was focused primarily on knowledge, not on students as persons. This attitude has, in large measure, carried over into undergraduate education, and preoccupation with factual knowledge has tended to undermine the human values which could give unity and purpose to the educational program. The British
collegiate idea, the model for our liberal arts college, has lost ground steadily to the notion of specialized scholarship.3/

This analysis is by no means acceptable to everyone. Lewis Mayhew, professor of education at Stanford University, has written: "Clark Kerr believes that the genius of American higher education is the blending of the British idea of a college and the German idea of a research institute." In taking a position contrary to that of Clark Kerr, Mayhew has written: "This has been an almost impossible marriage and the attempt to fuse the teaching function, the research function and the service function is the biggest problem which has faced American higher education since the marriage was consummated."4/

3. Acceleration of student unrest.

Preliminary results of a survey of 1,200 heads of institutions, 330 trustees, 1,100 faculty members and 1,100 students—made by the American Council on Education—were reported by Logan Wilson, president of the Council. Using a smaller sampling of 100 college presidents, it was found that 90 percent of this sub-sample expected students to "use direct-action methods to assert their demands for


changed conditions" on an even wider scale in the 1970's, but fewer than 10 percent believed this was desirable.⁵/

In his study of 71 episodes of student disturbances since October, 1966, Edward Shoben of the American Council on Education, concluded: "The two great problems that plague our colleges are precisely the same as those that convulse our larger society—that, in significant ways, the difficulties of running our universities are unfortunately similar to the difficulties of running our nation and our cities."⁶/ The two great issues, of course, are Vietnam and racial injustice, with its various components, including the white backlash.

Shoben found that student coalitions are formed under one or more of four primary conditions. One condition exists when a persuasive case—sometimes more apparent than accurate and sometimes based upon unfortunate fact—can be made that faculty or administrative leaders have been unresponsive to student expressions of concern. Responsiveness in this context does not necessarily mean soft or flabby statements or a tendency to accept student recommendations simply because they are made; it does imply a willingness to listen, to hear what is said, and either to entertain

⁵/Malcolm C. Scully, "Greater Student Demands, Diffusion of Top Authority Seen Lasting into the 70's," The Chronicle of Higher Education 2:1, July 1, 1968.

and act upon the possibility of changes in the directions recommended or to reject the request on the basis of explicitly given reasons.

A second condition seems to be fulfilled when students become convinced that they are inappropriately excluded from participating in the making of decisions which affect their personal conduct, their off-campus behavior as citizens, or their expression of political or moral opinions.

The third condition seems to rest on evidence or belief that the college or university has been guilty of some injustice. Contracts to conduct sponsored war-related research, official initiative in bringing a government spokesman to the campus to discuss the war in Vietnam, and the admission of too few Negro students are examples. Although one can argue that such charges often are unfair or neglectful of the complexity of the issues involved, such arguments are essentially beside the point in the current academic context.

And a fourth condition: anarchist tacticians gain support among their peers when one or more of their number achieves some form of martyrdom. Suspension or expulsion from the institution on less than clearly justifiable grounds, arrests (particularly under conditions in which physical force is used) by the police, and disciplinary actions that have the appearance of arbitrariness, and the emotion surrounding such circumstances usually distort considerably the true causes and actions.
Writing in the *New York Times* magazine section, James Michener discussed five main complaints of the young rebels.

About the first—hypocrisy—he wrote: "A fundamental cause of disaffection has been the contradiction between what the middle class says it believes and what it does. These confusions are so ugly that they contaminate our society and repel the young."

About the second—which is sex—Michener wrote: "One of the sillier aspects of middle-class life in recent decades has been the attitude toward sex. The psychic damage done to individuals has been considerable, but the public confusion arising from identifying highly arbitrary sexual mores with basic morality has been even more costly."

The third major complaint was education. He was asked this question by students: "'How can one take seriously a university which in the year 1968 turns over the social organization of its campus to private fraternities which discriminate against Jews and blacks?'

A fourth complaint—Vietnam—was certainly a surprise to no one. Mr. Michener believed: "It would be impossible to overstate the damage done to the young by the moral contradictions of the Vietnam war...Starting with the Korean War in 1950 our nation developed a seductive and basically immoral doctrine...It was this: that we could wage a left handed war in which a few men chosen at random sacrificed their lives, while our right hand allowed other men to stay at home in an undisturbed economy and make a lot of money."
And in the fifth complaint—race—Mr. Michener stated that in "no other aspect of our national life have middle-class values appeared so hypocritical as when responding to the problem of race, and much of the disaffection of young people stems from this area."7/

It does seem highly improbable that institutions of higher education can ever again conduct themselves as remote and relaxed enclaves of serenity. In these times of massive and rapid social change, our universities and colleges must keep pace and face squarely the large issues that beset them both from within and from without.

4. Acceleration of faculty organization.

Again turning to the recent survey reported by Logan Wilson, it was found that 81 percent of the 100 presidents saw collective bargaining becoming "widely adopted as a means of determining faculty salaries and conditions of employment," and 90 percent of the presidents viewed this as undesirable.8/

The acceleration of faculty organization will likely bring about certain problems of governance. An American Council on Education-sponsored study by Archie Dykes, chancellor of the University of Tennessee at Martin, sought to determine the role of faculty members in governance. He found, in essence, that faculty members

8/ Scully, Ibid.
misunderstood the distribution of power on campus, were confused about their role in governance, and were not sure they had time to participate in the first place.

He found also that "the further removed decisions were perceived to be from academic affairs and the educational program, the less interested the faculty was in claiming an influential role. Thus, the respondents said the faculty should have a determining role in decisions about 'academic matters' (including personnel), less influence in financial matters, capital improvements, and student affairs, and little involvement in public and alumni affairs (noneducational decisions)."

In his conclusion, Chancellor Dykes found fault with this attitude, writing: "It is impossible to separate decisions into simplistic categories like 'educational' and 'noneducational.' If the faculty's influence is to be truly effective, surely it must be manifested in all areas, for supposedly 'noneducational' decisions may have critical educational consequences. But the prevailing view of the faculty's role in decision-making militates against a broader sort of participation." 2/

For another view of this important matter, one can turn to the report of the American Association for Higher Education's Task Force on Faculty Representation and Academic Negotiations. In one

of its conclusions, the reporter stated: "Formal bargaining rela-
tionships between the faculty and the administration are most likely
to develop if the administration has failed to establish or support ef-
fective internal organizations for faculty representation. In such in-
stitutions, the faculty should have the right to choose a bargaining
representative."

The report concluded: "Some system of faculty representation
is likely to emerge in most institutions. The pattern of campus gov-
ernance that prevails in the future will be determined by the measures
that governing boards and administrators take to deal with faculty
aspirations now."¹⁰/

Processes of Change in Higher Education

C. P. Snow is not known for his optimism about the possibili-
ties of change in higher education, as indicated from the following
quotation: "In a society like ours, academic patterns change more
slowly than any others. In my lifetime, in England, they have cry-
 stalized rather than loosened. I used to think that it would be about as
hard to change, say, the Oxford and Cambridge scholarship examina-
tion as to conduct a major revolution. I now believe I was

¹⁰/ American Association for Higher Education's Task Force
 on Faculty Representation and Academic Negotiations, Faculty Par-
ticipatio n in Academic Governance, Washington: the Association,
1967, p. 3 and 67.
over-optimistic."  


kissing itself is apt to be so satisfying that there is little tend-
dency to evaluate it otherwise."

John Dietrich, Director of the Educational Development Pro-
gram at Michigan State University, believes that "a sympathetic cli-
mate" is a prerequisite for the successful institutionalization of in-
novation. He makes three points:

- First, there must be administrative commitment...
- Second, academic planning and educational development, in its truest sense, is the province and major responsi-
bility of the faculty, so it is an absolute necessity that their commitment to innovation be developed.
- Third, the facts have made it plain that students also have serious questions about the way our universities are run. They should be challenged to come forward with positive proposals.

Everett Rogers, professor of communications at Michigan State University, has from the standpoint of past research, listed five characteristics which affect the rate of adoption:

1. **Relative advantage**: "The individual confronted with an innovation will determine its relative advantage largely on the basis of whether he thinks it superior to the ideas which supersedes."

2. **Compatibility**: "Concerns the degree to which potential adopters feel it is consistent with their existing values and past experiences."

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cation, 1961, p. 3.

14/ John E. Dietrich, "Reorganizing the Structure to Accom-
plish Innovation," A paper at the 23rd National Conference on Higher Educa-
tion, sponsored by the American Association for Higher Educa-
(3) **Complexity:** "The recognition that the innovation may require special training, would expose weaknesses in teaching methods, and so forth is a factor."

(4) **Divisibility:** "Not all innovations, of course, require full acceptance or complete rejection. Most, if not all, can be perceived as divisible into stages which may make adoption less painful."

(5) **Communicability:** "The rate of adoption is a function of the degree to which the effects of an innovation can be communicated to others."

**Characteristics of Innovators**

What are innovators like? How do they differ from so-called non-innovators? Are innovators also non-innovators, depending upon what is being innovated? Are innovators in elementary and secondary different from those in higher education? These and many other questions await further research and study.

We do have, however, some evidences to go on. Everett Rogers has developed the following description of what innovators are like: "Innovators are venturesome individuals; they desire the hazardous, the rash, the avant-garde, and the risky. Since no other model of the innovation exists in the social system, they must also have the ability to understand and use complex technical information... Their propensity to venturesomeness brings them out of their local circle of peers and into more cosmopolite social relationships."

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Even when the geographical distance between them may be considerable, they often have been found to form cliques. They spread their new ideas as their gospel.16/

Moving more directly into characteristics of innovators in higher education, although characteristics described by Rogers may be quite relevant, Richard Evans and Peter Leppmann reached this conclusion with respect to innovating and innovation-resisting professors: "Whenever our discussion on the nine campuses turned to the personality factors characteristic of our two prototypes, the innovator and the laggard, the pro-ITV (instructional television) and the anti-ITV professor, a lively and sometimes heated discussion followed, particularly in the faculty groups. We usually reviewed our findings briefly by stating that in our case study we found that those who resisted ITV appeared to be more narrowly restricted in their interests within the university, that they carried larger teaching loads, that they tended to be more resistant to psychological testing, and that they tended to be a little more anxious in general. We pointed out that we found significantly more resistance in certain disciplines, primarily in the humanities rather than in the technological fields. On the other hand, we reported, in our case study the professor who favored ITV tended to extend his interest beyond the

16/ Everett M. Rogers, "What Are Innovators Like?" Theory Into Practice 2:253, December, 1963.
university, had broader interests, carried a smaller teaching load, and was often more productive in non-teaching activities such as writing and research.¹⁷/

Turning to some thoughts by Don Orton, president of Leslie College, on institutional aspects of innovation and change:

The norms of the institution and innovation. Norms are an institution's habits. They are often as difficult to modify as smoking, drug addiction, or lying on the part of the inveterate fisherman. An administrator would do well, if he can, to choose to believe—possibly because of the well known potency of the "self-fulfilling prophecy" that many of them nevertheless are amenable to change and that possibly even some latent ones exist in which there is a valence in the direction of something new and innovational.

Precisely because of their persistence, they represent an area of great importance to the innovator. For once a norm has been modified in the direction of facilitating innovation, the ease of innovation obviously is enhanced.

Most of us work on campuses which are characterized by two institutional norms which impede our attempts to innovate:

1. The college organization itself is not regarded as an appropriate subject for study and change.

2. When innovations are launched, little or no effort is made to follow their long-range consequences.

For our more effective work—as administrators, faculty, and students—we (and our colleges) need on-going, theoretically oriented studies which relate in an infinite number of ways to how to pursue our goals more effectively and which yield, among other results, feedback data which we can use for personal and organizational development.

Innovation and stress. It is naive to assume (1) that innovation can be achieved without stress and (2) that stress per se is "good" or "bad." One's interest in stress, both individually and institutionally, is the extent to which it is functional, rather than dysfunctional. Dysfunctional stress, it seems to me, is stress which results from attempts to innovate through covert manipulation, through win-lose strategies, or through silent collusion in which individuals affected by a proposed innovation "accommodate" the entire process by avoiding confrontations. Dysfunctional stress is marked by vast, unproductive expenditures of energy, frozen (often polarized) positions, and trauma which perseverates well beyond any normal period of adjustment. (I do not mean to suggest, however, that every problem can be negotiated to the full satisfaction of all concerned or that every decision can avoid a win-lose consequence.)

Functional stress seems to me to be stress which arises in our colleges as we strive to clarify and internalize an institutional sense of uniqueness and identity; as we pursue efforts to vitalize and integrate the entire organization; as we deliberately respond with creative adaptations to the challenges which face our colleges; and as we enlarge our capacity to test and face organizational reality.\textsuperscript{18/}

Higher education is just becoming change-conscious, again following the lead of elementary and secondary education. We have little literature and research on how change can, and does, take place in higher education. The seventies very likely will see a major thrust in this direction as institutions of higher education move, or are forced to move, toward more effective management and organizational procedures. And there is reason to believe that better classroom instruction and student learning will be an end result.

\textsuperscript{18/} Don A. Orton, "Reorganizing Institutional Structure in the Small College to Accomplish Innovation," A paper given at the 23rd annual meeting of the American Association for Higher Education, March 4, 1968, pp. 5-6.