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ABSTRACT

The relationship between higher education and society is explored. Consideration is given to definitions and models of futurism; alternative futures for society; trends and alternatives in education; the value of higher education; enrollment projections; financial issues; authority and control issues; the institutions; the students; the faculty; the curriculum; and the technology. It is concluded that the past 10 years have proved that universities cannot be isolated from the society in which they exist, and that they are extremely resilient institutions. (LBH)

CONTEMPLATING THE FUTURE:

HIGHER EDUCATION IN THE CONTEXT OF SOCIETY

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We always start from where we are. We cannot, even though we might like to, start from any place else. The course of the journey and the nature of the future destination are always uncertain; but both the journey and the destination are affected by how we approach them--in despair or in guarded expectation. We need less euphoria than we once had, and less despondency than we now have, and more realism than we have heretofore displayed. . . .

Higher education is too vital a force in any modern society for us to be in despair about it; it provides too much in the way of skills and of research, and responds too much to the human desire to understand. These are sound bases on which to move forward with a sense of cautious confidence (90, p. 275).

Clark Kerr (1975)

The next several decades will constitute a traumatic period for higher education. . . . As the system moves toward stabilization and then decline, however, the incompatibility between institutional structure and the structure of scholarship will become increasingly visible. Thus, the university is entering a period in which it will be progressively strangled by an atavistic organizational husk. . . . Superimposing this bleak picture on the increasingly atavistic institutional structure of the university and on the progressive aging of faculty members, prospects are grim for the research university sector (112, pp. 75, 82).

Stephen Dresch (1975)

An overemphasis on education can result in shallow intellectualism. . . an expansion and prolongation of the adolescent subculture; a meritocracy; excessive theorizing, intellectual and/or educated parochialism; alienation from one's own culture or subculture; and other alienation from the practical world (17, p. 64).

Herman Kahn (1967)

America is entering an Age of Education. Education will become the dominant coordinating force for society, occupying the same position that science and religion have in the past (34, p. 10).

Mario Fantini (1975)

CONTENTS

CONTEMPLATING THE FUTURE:

HIGHER EDUCATION IN THE CONTEXT OF SOCIETY

Introduction

That the future of higher education is a matter of great concern is quite obvious. What is not so obvious is that future itself. Will higher education as it exists today in colleges and universities throughout the world pass completely away--to be replaced by technical institutes and home-based educational centers? Will it become "an instrument of national purpose," "a luxury for the elite," or "a passport to a better life for all"? Can advanced learning be imparted to the multitudes? Or, indeed, should it be? And how will society itself influence the future of this educational process?

Perhaps the answers will come soon enough as the decades pass, but for many this is not sufficient. To understand and to plan for tomorrow, we must first have some conception of those events and attitudes which determine "the shape of things to come," remembering that higher education is shaped by the changes in society as a whole. But of course we cannot predict with certainty those occurrences which will influence the destiny of both education and society. We can but suggest possibilities on the basis of what has happened and what is now occurring.

This may not be enough, however, for as Alvin Toffler and others (31, 50, 99) have observed, the upcoming future could be such a radical departure from the present that it cannot be thought of in existing terms. To cushion this tremendous "shock" which may greet our society, it seems profitable to suggest alternative futures--speculations of things which may not become reality, but which could well occur. Thinking about change is not actually meeting it, but projecting potential events can be a most useful first step in facing the uncertainties of tomorrow.

Futurism: Definitions and Models

Conflicting opinions about the value of anticipating life in the future have always been held. A glance in Bartlett's or other collections of quotations reveals several of these views. Albert Einstein commented in 1930, "I never think of the future--it comes soon enough." Of a different view, Charles Kettering declared his preference in 1946: "My interest is in the future because I'm going to spend the rest of my life there." The philosophical approach has been well expressed by George Santayana: "We must welcome the future, remembering that soom it will be the past; and we must respect the past, knowing that once it was all that was humanly possible."

Concern about tomorrow, then, does occupy the thoughts of man. As to whether he attempts to suppress his apprehension or to express his euphoria about the future depends to a great extent on personal perspectives and values. Risks are entailed, to be sure: a life (or a society) totally directed to one and only one anticipated future may be doomed should the unforeseen come to pass.

Around this somewhat perilous, but completely fascinating, concept of visualizing the future (or more properly, futures), the field of study called either futurism or futurology has evolved. Although many express distaste for names which have a quasi-scientific sound, futurism and futuristic study have attracted intellectuals from a variety of disciplines, physics to philosophy. In no case is the purpose of future-related research to make uncontested prophecies. Nostradamus is not the model for a futurist. Rather the research scientist utilizing advanced computer techniques and the historian-philosopher seeking clues to the future in the past and present become the scholars who analyze trends and suggest ramifications for the future.

As is usual in most areas of specialization, a vocabulary of terms with particular inferences has arisen. Among the concepts frequently encountered are the following (16, pp. 162-85):

Projection--an extrapolation based on data into the future.

Straight-line projection--a projection which follows a direct path from the present to the future, generally neglecting alternative routes.

Surprise-free projection--a projection which is not surprising to its author; certain aspects of a situation are kept constant while others are allowed to evolve.

Forecast--a projection in which the analyst employs probability theory to determine most-likely occurrences from events which are possible.

Prediction--a projection in which the probabilities for occurrence of specific events are so high that a certain outcome can be foreseen.

Branch points--particular events whose occurrence cannot be predicted or whose probability of happening may be quite low, but which have a crucial influence on other events.

Scenario--a hypothetical sequence of events prepared to direct attention to branch points and processes.

Alternative future--the systematic context of a projected future, usually including the concept of scenario; according to Harold Lasswell (48, pp. 5-10), a basic framework for constructing an alternative future should involve (1) clarification of goals, (2) description of trends, (3) analysis of causal conditions, (4) projection of future development, (5) invention of policy alternatives.

Delphi forecast--a technique of projecting probable outcomes by means of a questionnaire administered in two steps to determine a consensus on future events; after a group (knowledgeable in a certain field) has been given the first part, an analysis of the responses is made which is then supplied to all those answering the questionnaire; in the second part of the technique, all are asked to revise their projections in order to achieve a degree of unanimity.

Cross-impact analysis--a technique of analysis of effects which has proven useful in studying the future because the various interactions of environments and events are considered.

In most instances, the scenario concept has been used by futurists because it is a representation only of what might happen, not what will happen as in a prediction. Further, it is not necessarily a description of those events whose

occurrence would be desirable. Not a plan, but rather an indication of what could conceivably occur. Usually, the scenario will be subject to revision, as the most surprising thing about a surprise-free projection would be that all events come to pass exactly as suggested.

Whenever these techniques of projection are employed, it should always be to derive alternative futures, not the future. No particular outcome can be thought of as inevitable, but it is quite possible that the present conceptions of future events will have decided effects on the outcome of those events. As "the" future is perceived by a society, the people within that society may modify their behavior to the extent that they do determine the future. But the possibility exists that one of two entirely different influences could occur: either the prediction can be self-justifying and its existence tends to bring the foretold events about; or the prediction can be self-destroying and its statement leads to actions which will insure that it not happen (48, pp. 57-74).

In the consideration of various scenarios (if certain desirable outcomes can be seen), appropriate planning to achieve objectives can be made. But the alternative futures or scenarios must be drawn according to the best data available, with provision for as many interacting effects and unusual events as possible. Only after a multiplicity of alternatives are provided can the best routes to significant goals be charted.

In defining the relationship of the future to the present, numerous schools of thought have appeared to express their views: the inactivists, the reactivists, the preactivists, and the interactivists. As described by Russell Ackoff (1, pp. 22-32), to the inactivist the present system of things is quite satisfactory as is the direction society is headed. Intervention in the order of things will only make future life worse, not better. Reactivists prefer the past to both the present and the future and seek to introduce those changes which in fact will

produce a reversal in the direction of present trends. The future is the concern of the preactivists who desire to predict those events which will occur and to prepare society for them. Although the future is also of paramount importance to the interactivists, they do not merely wait for predicted events to transpire but actively attempt to modify the future by eliminating threats and by suggesting improvements. To be effective, the planning of the interactivists should be (1) participative, (2) coordinated, (3) integrated, and (4) continuous. After such preparation of future alternatives, the interactivists will begin to alleviate any unfavorable conditions and to initiate changes in existing policies.

If any effort is made to influence the future, it is imperative that solutions to future problems be prepared within a framework which takes historical circumstances into account and interrelates them with present events. (That the past can be instructive in considering the future has been well shown by Robert Heilbroner (13, 14). The three main currents in American history have continued to be the same generation after generation: rampant scientific and technological development, extension of opportunities to the underprivileged, increasing social and governmental control over personal and economic life.)

Alternative Futures for Society

Educational institutions are naturally affected by the currents in the society about them. As particular problems come to the fore, the various parts of society react--frequently in opposition to one another. Ultimately, what becomes a trend in governmental affairs, in business, or in social institutions influences each part of the entire system (31, pp. 398-427). Such is the thesis of those involved in world dynamics--the Club of Rome, for example. This organization with its decidedly activist orientation has sought to establish various models of interacting systems which continue to evolve into the future. Using complex computer programs, Jay Forrester and D. H. Meadows

have prepared a rather frightening projection of tomorrow's world. As expressed in The Limits to Growth (22) which was published in 1972, the world model examines the interactions of birthrate, crowding, food supply, pollution, energy and natural resources consumption, and capital investment with an indication of probable effects on the activities of life.

Among the alarming possibilities which have been drawn from the studies: (1) various peaks will be reached at approximately the same time, leading to practically intolerable conditions (pollution peaks at 2060 A.D., population at 2020 A.D., severe resource depletion by 2030 A.D.); (2) population control alone cannot solve our forthcoming ecological crisis; (3) industrialization may be the most disturbing force in the world system, possibly becoming self-extinguishing; (4) under-developed countries may not be able to become developed without even more disastrous results; (5) the current age may be the "golden age" and that future prospects appear grim unless drastic measures are taken.

While this research has been considered to be quite thorough, it is not without its detractors. Most notable has been the critique Models of Doom (5) prepared in 1973 by a British team of scientists who refute many of the conclusions drawn by Meadows. Improper analysis of the collected data and questionable models are the major faults of The Limits to Growth, according to the British report. Another weakness which has been detected in the Meadows model is that knowledge has not been considered as an essential stock in the system. As suggested by Kenneth Boulding (48, pp. 66-74), the earth is certainly a finite niche but an ever-increasing amount of knowledge is available to solve potential problems. One example which illustrates this clearly concerns the dire forecast of Sir William Crookes in 1899 that Europe would starve to death within three decades because the Chilean nitrates upon which European agriculture depended were exhausted. This calamity never happened--primarily because the Haber process for extracting nitrogen from the air solved a crucial problem. Thus, whenever projections such

as those of the Club of Rome are made, they must be evaluated with reference to many factors. Being subject to unexpected changes in the various parameters, these models can serve best as a means of warning to those who would neglect the importance of a balanced world system.

Besides the problems of overpopulation, pollution, and resource depletion, there are other important considerations in the preparation of alternative futures for mankind. Living in the nuclear age implies the ever-present danger of complete annihilation. As the years pass, weapons become increasingly sophisticated; safeguards may become less sure if tensions induced by the future mount. Should detente cease to be a major goal of nations engaged in competition for resources or living space, all alternative futures may tend to the same terrifying conclusion.

The difficulties in anticipating military-political developments are many: technology and ideology change so rapidly that the policy of tomorrow which is written today is virtually obsolete before it is even implemented. Few issues were as heatedly debated in the 1960s as the protection of the United States from enemy nuclear missiles. To protect our retaliatory strike capability, a number of anti-missile (ABM) bases were to be placed in operation as soon as feasible. But by the time such installations were completed, the technology of intercontinental weapons had advanced far beyond the point at which an ABM system would be effective. Furthermore, diplomatic efforts had influenced American thinking to the extent that the ABM bases are to be dismantled. Once the burning concern of a nation, this controversy fades slowly--to be replaced by another "crucial issue of the future." Forecasting the direction toward which society should move is both an arduous and a frustrating task.

The impact of technology is so apparent in all aspects of life; a factor in pollution and in the waging of war, technological change may be the greatest

force in determining the future. We have become almost totally dependent on the contributions of technology--the "Children of Frankenstein" to Herbert Muller (23). Our industrial society, however, is gradually being transformed to one characterized by Daniel Bell (3) as being "post-industrial." Both Bell and Muller note that the rapidity of technological advancement, the rise of the computer to preeminence, and the triumph of automation can produce many traumatic effects. We are passing from a working society in which an important value is the manipulation and the creation of materials by physical labor to a world in which the providing of services constitutes the majority of work. Such a social world with its emerging value system creates a paradoxical situation: never before have interpersonal relationships been so essential and never before has society been as depersonalized through the application of technology. As the trend continues, time and work become more and more disassociated. Time, whether for leisure or learning, can exercise a form of tyranny over the people of the future. More time is available, but there is less direction, less certainty of its proper use when the work-achievement ethic no longer dominates.

The potentiality of catastrophe could increase as the century draws to a close. Not only do food supplies continue to dwindle, but also the increase in the sheer mass of humanity promotes greater urbanization. Aside from the persistent problems of effective urban sanitation and transportation, the question of governmental authority grows in significance. When the total population could be distributed throughout a region, relatively little governmental intervention in affairs was necessary. But as cities expand, control over the citizenry likewise increases. The autonomy of the subregions is continuously reduced until all parts of a region are brought under one authority. And, following historical precedent, the governmental agencies of this megalopolis become increasingly bureaucratic. Suppression of thought and

unauthorized actions becomes more likely. Individuals in such a future society could be transformed into "robopaths"--persons totally dehumanized by regimentation and bureaucratization--in the opinion of Lewis Yablonsky (33).

To the "robopath," the proper orientation is toward the past, not the present or the future. He becomes more ritualistic and conformist, more alienated from the society in which he lives. Gradually, any feelings of compassion for others pass away; the "robopath" becomes only interested in his own survival. This predictable behavior can then be regulated by the ruling "technocracy"--an ominous power resembling the government in Orwell's 1984. Eventually, such routinization of life may produce intense feelings of hostility which lead to eruptions of indiscriminate violence. But, of course, the violence is counterproductive and brings about the imposition of even more strict controls. The government in this dystopia might also attempt to manipulate the "robopaths" through the use of brain-modifying drugs and techniques, suggests Yablonsky, creating a society of human nonentities.

Although this nightmare of the future is not inevitable, certain indications of a drift toward a regulated society are seen by Robert Nisbet (26): (1) the increase in centralization of governmental authority; (2) the "new egalitarianism," the constant effort to insure equality of result rather than equality of opportunity alone; (3) the collection and computerization of data files on all individuals; (4) the promotion of certain civil liberties while attention is diverted from the loss of fundamental rights. This "twilight of authority," to use Nisbet's phrase, comes about as the local governments (and citizens) in a nation continue to surrender the control over their affairs, producing the authoritarian state which "protects" its subjects from themselves. But the fact that this issue of authority is being carefully considered gives a reason for some optimism about the place of government in the future.

Even though those who project futures for society attempt to anticipate virtually all eventualities, many occurrences can simply not be taken into consideration. Among these remote, "bizarre," or otherwise unusual happenings which could completely change the course of history are the following: worldwide earthquakes which devastate entire continents; the creation of living beings in the laboratory; the visitation of the earth by "persons" from another galaxy; the invention of instantaneous teleportation devices. To these rather drastic events could be added several others of great consequence but with a lesser "shock" effect: control of the weather; drug-induced learning; discovery of life forms on Mars; genetic engineering and cloning; the beginning of numerous "brushfire" wars throughout the globe.

But what changes are most likely within this framework of speculation? Two futurists, Herman Kahn and Anthony Wiener (17, pp. 51-55), have suggested one hundred technical innovations which will probably be seen during the remainder of this century, from advanced lasers to genetic control. These projections have then been placed into the context of basic, long-term, multifold trends by Kahn and Wiener and into comprehensive scenarios by other futurists. Their modest listing of primary trends, however, best expresses the general outlook: (1) continued and rapid expansion of technology; (2) wider diffusion of available goods and privileges in a post-industrial society; (3) centralization of political systems with increasing bureaucracy; (4) shifting relationships--political, industrial, economic--between the United States and the balance of the world.

If these trends are related to possible political upheaval, one of the alternative futures described by Willis Harman (39) could become reality: (1) anarchy--as disruptive forces in society increase, government collapses; (2) garrison state--massive repression of individual freedoms by governmental control;

(3) revolution and social restructuring--total confrontation, followed by reconciliation and complete modification of the social system; (4) evolution of the egalitarian state--social change without violence; (5) suppression of violence with return to previously existing conditions--negotiation and compromise with dissident groups. Harman concludes by suggesting necessary transitions to prevent undesirable futures:

From	To
Violence	Rationality and discussion
Power centralization	Power decentralization (sharing of authority)
Environmental deterioration	Environmental enhancement
The Nuclear Threat	International "stewardship of the future"
Dehumanization by technology	Improvement of society through human-centered technology
Depersonalization by bureaucracy	Participation in democracy
Alienation	Community and self-identity

If these transitions can be made before conditions become deplorable, the future of civilization will be assured. If it becomes impossible to affect present trends in a positive way, society (actually the individuals themselves) may not enjoy a favorable future. And, as we have seen, some of the alternatives are terrifying.

Education--Trends and Alternatives

In projecting a probable future for society, providing the proper place for the educational function can be most perplexing. According to some noted educators, educators will become the dominant force in tomorrow's world, being the only means by which adjustment to the growth of knowledge and the vagaries

of life can be accomplished. But to others, education in the future will be relegated to the status of a tool--a useful one, but a tool nonetheless. This viewpoint is derived from the concept of the coming of the post-industrial age; education will be of most value in the last stages of an industrial society and will decline in importance as the transition is completed (16, pp. 228-29). It would be an egregious error, though, to ignore the impact of both education on the future and the future on education--for the future of the school and society are inseparable (48, pp. 83-95).

One issue which currently divides educators is that of the quality of the educational experience provided. Needless to say, the topic remains controversial when placed in speculations of the future. Expressing an optimistic opinion, Patrick Suppes (48, pp. 145-57) maintains that the general level of education for the entire population is rising gradually. Noting that only two percent of the American people graduated from high school in 1870, whereas the completion of high school is common today, Suppes believes that by 2070 the mass of the nation's population will be at the master's degree level and by 2170 the majority of people will have an education equivalent to today's Ph.D. recipients.

Such a projection is in sharp conflict with that of John Lukacs (19, pp. 99-112), who believes that the universality of schooling has in fact led to the dissolution of learning. This view is perhaps one reason why the pendulum which had swung from the rigid, formalized classes of the 1800s to the progressive schools of John Dewey's followers may be in motion again. The entire basic school movement has adopted the thesis that present day schools are in a retreat from quality in their pursuit of the "joy" and the "openness" of affective education. Attacks upon the existing educational system, however, are coming both from those who suggest that the purpose of the schools is to prepare an intellectual "elite" which will be able to resolve the problems of the masses

and from those who believe that the schools should act as facilitators of social adjustment for everyone.

But how can this seeming dichotomy of purpose be resolved in the years to come? First, an examination of the many impediments, crises, difficulties, and issues which will face any future educational system should be made, seeking areas of agreement. After this has been completed, sufficient alternatives can be made available so that the ongoing of society will not rest on any one solution.

There is accord on many of the critical factors for education in the decades to come. Philip Coombs (36) has identified four impediments to educational change: (1) a sharp increase in the popular aspiration for education; (2) an acute scarcity of resources; (3) the inherent inertia of educational systems; (4) the inertia of societies in general. In concurring with the assessment of Coombs, Ralph Tyler (48, pp. 165-80) emphatically states that the schools will be able to overcome difficulties and will work in close partnership with family units to improve educational experiences. Besides the four impediments described by Coombs, Tyler adds several problems of tomorrow which will demand great effort to solve: (1) education of the disadvantaged; (2) the role of moral and value education; (3) the proper preparation of youth for responsible adulthood; (4) the nature and value of vocational education; (5) the finance of education. Solutions will not be easily found, notes Tyler, but an essential beginning should be made by creating closer ties between the community and the school.

The lack of involvement of the schools with the realities of society has been frequently mentioned as a cause of the alienation of students today. Many feel that this separation will only grow to become an even more serious problem as the impact of future technology is felt. This concern can also be seen in the goals prepared by the National Institute of Education in 1972 (48, pp. 141-43). Dividing the difficulties faced by the educational system into three areas--chronic problems, chronic problems becoming acute, acute problems--the Institute

observed the following: (1) there is broad conflict over the goals and purposes of education which has been accentuated as education has become a political issue; (2) resources are limited and ineffective use has been made of them in many instances; (3) there is insufficient diversity in our educational system as a whole. These are considered problems of a more chronic nature, having been with the schools for several decades.

Those issues, as suggested by the Institute, which are becoming acute will grow in importance almost daily: (1) the provision of equal educational opportunity; (2) improvement of living conditions for the disadvantaged; (3) the encouragement of students to contend with increasing disinterest in education; (4) the erosion of commitment to scholarship becoming evident in all divisions of the educational system; (5) the demand for flexibility in view of the rapidity of change. In commenting on these crucial issues, Louis Rubin (48, pp. 189-207) believes that the concerns of education can be reduced to quite basic questions--but which require complex answers:

> Who shall be taught?
> What shall be taught about the future?
> What shall be taught in the future?
> How shall the school be organized?
> What shall be the nature of teaching?

To determine the proper answers, Rubin asserts, is a responsibility which will have great impact on the future of mankind. Each generation has faced these questions, to be sure, but at no other time in history has the actual existence of the planet been at stake.

In response to the problems presented, recommendations for improving the educational system for the frenetic years ahead have begun to appear in abundance. Within this plethora of commentary, most solutions which have appeared have focused on revitalization of the curriculum, individualization of instruction, and utilization of the available technological resources.

Calling upon all educators interested in curriculum to share their dreams, Jack Frymier (40, pp. 48-80) requests a concerted effort to develop a curriculum which will be able to meet anticipated and unanticipated change. The shaping effect of the future environment and the value of human relationships should be incorporated within any curriculum developed. In contrast to Tyler who stresses purposes, content, experiences, and methods, Frymier describes the fundamental elements in curriculum reform as actors, artifacts, and operations. These terms refer to those who are involved in the process (students, teachers, administrators), to the content and the materials used in the presentation, and to the modifications over a period of time in the relationships between actors and artifacts. Emphasis will be placed on a different aspect of the educational experience in the future: on the retrieval of information rather than the storage. Techniques of searching and the principles of the structure of knowledge will be vital parts of each person's education in the years to come.

One rather controversial educator in America, Dwight Allen (40, pp. 3-19) has advocated such curriculum revision, but with far more sweeping changes. Suggesting a "deschooled society" in which effective education would play the major role, Allen maintains that education should be moved to the hub of society, with the present divisions of the educational system becoming interrelated to a far greater degree. An emphasis on subjectivity and personal values would become characteristic of the curriculum of the future. Flexibility of scheduling to provide the proper balance for each individual will be essential to the system as will the concept of differentiated staffing. As envisioned by Allen, this would permit students to acquire desired skills from those in society who can best instruct them while increasing the feeling of community involvement. (Tenure will become an anachronism is this conception, according to Allen.) By providing for much diversity in the types and means of learning, potential difficulties will be more easily resolved throughout the entire system.

Of a similar opinion, Harry Brody has enumerated some possibilities for education (40. pp. 22-45): (1) decentralization of didactics to encourage an effective mix of home and school learning centers utilizing communications technology; (2) establishment of "adjustatoriums" for adolescents to provide small group interaction in the transition to adulthood; (3) consideration of chemical methods to influence learning. Through the development of these concepts, his basic curriculum demands--vocation, civic competence, humanness--would perhaps be realized more readily. To Brody, the future of education may be directly related to the way in which technology is received. An advanced technological society will require less training for many, but demand more skill of a few. And, in his view, the dangers of technology can be countered only by technology. It can moralize a culture by creating powers to change society for the better; furthermore, it can influence moral values to an extent by offering an opportunity to accept everything it can provide or to select only the necessary functions it offers. In this way, the individual can--if he wishes--resist the conformity of the age and assert the value of a man in a world of machines. Thus, the role of technology in the educational process, concludes Brody, can be quite positive if educators develop it properly.

It is this force of technology in the history of man, reasons Suppes (43, pp. 145-57), which has shaped educational institutions and which will continue to do so. From the introduction of manuscripts to the production of the first printed book in Europe (Gutenberg, 1452), a tremendous step was taken which has determined the nature of education to the present. The introduction of schools (the grammar schools of the 15th and 16th centuries) and the use of testing for evaluation can be thought of as technologies, which--like those before them--were neither adequately forecast nor planned at the time of their appearance. Computer and communications technology may create as drastic a

change in the teaching/learning process as any other development in civilization, suggests Suppes. Implications will be seen in the curriculum which will--paradoxically enough--be more standardized and individualized at the same time.

As communication effectively promotes national and international cooperation, more agreement will be seen in the subjects taught and in the methods of teaching. Computer-assisted instruction (and within 50 years, states Suppes, users will be able to converse with a computer as with a person) will insure that each student learns at his own particular speed. Other forms of technology which will modify our present system of education include: the micro-reduction of entire libraries whose contents could then be in every home; global transmission of television signals which would provide programs from many lands and cultures; biological engineering which could dramatically influence all society. As indicated by Suppes, the course technology follows tomorrow depends upon the education of those who are in the schools today.

Harold Shane, who has devoted much of his professional career to the study of the educational significance of the future, notes the responsibilities of education:

> As a mirror reflecting society, schools do not create the future but can mirror the culture as it changes and prepares children to participate more effectively in a continuing effort to bring about better ways of life. . . .
> . . . without disregarding the past, our educational resources also can be used quickly to implement the social decisions needed to implement the best of alternative futures (50, p. 32).

Alternatives imply alteration to achieve the desired result--and this is the direction Shane suggests. Whatever goals are set by society for the future will certainly affect the present conception of schooling. Shane (51, p. 14) assumes that changes may occur in three stages: (1) the Preintervention Period, 1976-1981; (2) the Alternative Approach Interval, 1981-1991; (3) the Crucial Uncertainty Threshold, 1991-1996.

During the first period, not much will happen in the way of dramatic change. There will be a concerted effort, however, to stress "futures education." Because of the expected rush of startling developments as the years pass, it will become imperative that all people acquire both an orientation toward the future and the proper perspective of the past. In the second phase, continues Shane, alternative education programs must be implemented to determine their feasibility. If such measures are not taken by the end of the century, there may be no hope of recovery--a choice between an exciting world of tomorrow or "the brutal poverty of tenth-century Europe" must be made in the 1970s. Shane places great confidence in the ability of the educational system to meet the challenge. To this end, he recommends rather extensive curriculum revision in all educational programs, elementary, secondary, and postsecondary.

Realizing the rapid obsolescence of knowledge (in terms of specific information), Shane believes the key lies in teaching the ability to learn and to adjust to change. (This concept closely corresponds to the "education for survival" idea of Michael Scriven: ". . . providing the skills to live through radical changes, job skills that will survive sharp shifts in the market's needs, living skills that transcend one's initial socio-economic niche" (49, p. 35). Scriven has created an interesting curriculum around the requirements for survival.) The student should be encouraged--not compelled--to learn and should be placed in an environment conducive to the learning experience.

By implication, more community involvement through work-study (or experiential education) programs would be incorporated into the experiences of each student; in addition, multi-media centers based in the home would be used in conjunction with more traditional classroom instruction. Throughout the curriculum, the student would be urged to explore many areas of knowledge and to speculate about future developments and his role in them. Specific skills would have potentially

little use as technological growth continues; consequently, great effort must be made by educators to determine the most useful and lasting learning experiences for each student.

With this idea in mind, Shane (50, pp. 66-81) outlines his "educational continuum"--a seamless curriculum which would serve everyone from "womb to tomb." Beginning with earliest childhood, the curriculum provides nonschool preschool experiences to acquaint the child with his peers and with a glimpse of the world's wonders. As he grows both mentally and physically, the child passes along the continuum, which is not rigidly divided into absolute grade levels. His ability and interest serve to direct his placement; in many cases, the child may even serve as a tutor to a group of less advanced children. This upward progression continues, with community involvement increasing, until the adolescent period when yet another alternative is provided: the paracurriculum.

Consisting of the whole body of out-of-school experiences in which a student can further develop his knowledge and abilities, the paracurriculum remains in parallel with the curriculum for the remainder of the educational system. And in Shane's model, the system is never ending: people can enter and leave formal education at will, passing from the curriculum to the paracurriculum and back. A communiversity will provide postsecondary learning opportunities for those who desire them; and, because of the free access and vital programs offered, almost everyone would be enrolled. Shane believes that a conventional credentialing university program may also be in effect for those aspiring to major roles as scholars and professionals.

Such a program of higher education would take advantage of many of the other technological innovations common to the other parts of the system. These aspects are indicative of Shane's continuum: teaching partnerships of students, teachers, and laypersons; individually variable school years;

continual "fail-safe" guidance. Not all agree with this approach to education for the future; adherents of liberal education, for example, believe that too much emphasis has been placed in this model on affective education at the expense of cognitive development. But Shane has envisioned a system which would seem to answer many needs, for as he maintains:

> Fundamental reforms that feature a new flexibility and humanism are needed in U. S. education. At the same time, in this new context, personalized substantive learning, strong self-discipline, and carefully developed future-focused motivation for the learner must be present (50, p. 92).

Higher Education: "The Future is in the Past, the Past is in the Future"

Inasmuch as higher education reflects the world about it, the current mood of uneasiness is hardly surprising. But distress, conflict, and uncertainty have long been a part of American (and world) institutions of higher learning. The respected historian Frederick Rudolph has wryly observed that "resistance to fundamental reform was ingrained in the American collegiate and university tradition, [but that] the historic policy of the American college and university [has been] drift, reluctant accommodation, [and] belated recognition that while no one was looking, change had in fact taken place" (106, p. 491). Universities are not, then, the last bastions of the status quo as is sometimes suggested. (Although there are, admittedly, few institutions in society as reluctant as universities in initiating changes from within.) Described by John Brubacher and Willis Rudy, American higher education "remains in a state of dynamic revolution . . . the main themes of democracy and responsiveness to change stand out in bold relief for all to see" (61, p. 406). To them, as to David Starr Jordan whom they quote, "the true American university lies in the future" (61, p. 406).

Throughout its span, the American system of higher education has attempted to meet the demands of the community around it, whether these demands be for

intellectual or social services. In effect, universities and colleges have always been future-oriented: the change from the classical curriculum to the more practical one of arts and sciences to help those developing a nation; the establishment of large institutions rooted in common interests to provide training for agriculture, industry, and business; the creation of research universities to advance the frontiers of scientific knowledge; the growth of the elective system to promote the diversity of student interests.

American institutions, notes Donald Light (84, p. 260), drew upon the models of European colleges and universities to incorporate the necessary elements: the liberal arts and the intellectual discipline model of England; the utilitarian model of Scotland; the scientific research model of Germany. It has been, however, in this formulation of a comprehensive university that the major problem has arisen--can the university actually be "all things to all people"? The quest for this answer has been difficult and further implications are becoming apparent. Cautions Rudolph: "The spectre of numbers, nonetheless, was real . . . the problem of numbers was not a problem of numbers alone; it was also a matter of purpose" (106, p. 485).

As it happens, the "spectre of numbers" has haunted the university for decades, but now it is a different apparition. The Ghost of Christmas Present with its overflowing horn of plenty suggests the tremendous influx of students and dollars into the universities during the 1950s and 1960s. Will The Ghost Of Christmas Yet To Come suggest a catastrophic decline? Pessimistic forecasts are much in evidence to indicate that this may be possible. It then becomes essential that a statement of purpose which will be adequate for the future be prepared. Such a statement should consider a multitude of factors: the value of higher education; the types of institutions required; the internal control of these institutions; the authority of federal and state governments over higher

education; the programs to be offered; the needs and responsibilities of the students and the faculty; the effects of technology on the learning experience.

There is no lack of dominant issues, to be sure. Cameron Fincher (73) has categorized them as legal, economic, and technological, with each class containing numerous subissues. A rational solution of these issues may be extremely difficult to obtain: it will depend upon the rationality to be found in the historical development of education and society and in the survival value of educational practices. At times, the successful solution of one difficulty, adds Fincher, may lead to yet another problem (or, if one is fortunate, a solution to another difficulty). Above all, however, a broad perspective will be required by all educators--the future is arriving daily.

The Value of Higher Education

It has become rather fashionable to depreciate the value of higher education in these days of "the new depression in higher education." One recent study by Richard Freeman and Herbert Holloman (76) has suggested that the economic benefits derived from college attendance will gradually decline, perhaps resulting in fewer and fewer persons pursuing degrees. They foresee that a fall in the economic value of "human capital" (because the job market will simply not accommodate all those with a college education) will lead to a future situation in which parents will have had more schooling than their children, contrary to past experience. As the demand for additional faculty and researchers also lessens, young people will decide not to invest in a college education, preferring to acquire marketable technical skills.

A similar view of the prospective vocational value of a college degree has been given by Stephen Dresch who notes that "the scholarly enterprise has entered a period of major crisis in which a contraction of higher education . . . will be the result of declining individual incentives to college completion,

which will follow from the saturation of the educational labor market" (112, pp. 74, 83). Allan Cartter (108, pp. 231-39) had made an equivalent prognostication in the early 1960s about the future for Ph.D. degree holders: the booming market of that decade would become a "bust" by the late 1970s and early 1980s as more and more people received degrees but there became fewer teaching positions available.

To Martin Mayer (94) such observations by Dresch and Cartter lead to the conclusion that "everything is shrinking in higher education." A glutted graduate degree market will probably necessitate actions which, in his view, could have a detrimental effect on the whole conception of the higher learning. Already employers are demanding high school diplomas for jobs which to not actually require them; it may be only a matter of time until the college degree becomes the required credential. Universities and colleges, asserts Mayer, may lower standards and encourage as many as possible to enroll to meet these arbitrary vocational requirements. Of course, this is a self-serving action as employment opportunities are increased for those holding advanced degrees and desiring to teach. As a result, the quality of education may decline as the system expands to offer higher education to everyone. The final outcome, however, is the loss of confidence in institutions of higher education by the general public. When those who receive a degree or those who employ graduates begin to realize, suggests Mayer, that college education no longer is of high quality, the entire educational system will be severely damaged. Unfortunately, Mayer concludes, many educators "have dug their feet into a philosophy of growth and their heads into the sand" (94, p. 124).

In seeming rebuttal to these arguments are the viewpoints of Fritz Machlup and Howard Bowen (93, 58). To Machlup, education has a very real effect on the economic status of both the individual and the nation. With the possible exception

of India, in every country the better-educated people tend to rise to the higher socio-economic levels of society. By creating an urge to better oneself and by improving one's abilities, education enhances the individual's opportunities for advancement. And as the educational background of a nation develops further, the general standard of living increases for all. It should be noted that in this discussion Machlup speaks primarily about the monetary effects of higher learning; he does, however, acknowledge the essential contribution higher education makes to the improvement of the cultural and intellectual levels of society.

Deeply concerned about the current questioning of the value of higher education, Howard Bowen has sought to project a future which is far from dismal. To him, much of the criticism at present is based on three fallacies: (1) there is a fixed inventory of occupational skills, eliminating the necessity for continual learning; (2) valid predictions can be made today regarding the population, the character of the economy, and the skills required in the future (such predictions proving that higher education has overexpanded in light of these factors); (3) unemployment and dissatisfaction are more widespread among the better educated than among those with less schooling.

The whole purpose of higher education, according to Bowen, has perhaps been misconstrued--for it seeks not only to increase the vocational competence of individuals but also (and most importantly) to provide a better understanding of the human experience and the power of knowledge. Bowen emphasizes that (1) each person should be free to investigate the areas of knowledge he chooses, not what the current job market dictates, (2) it is certainly questionable that the sole purpose of higher education is vocational, (3) in a rapidly changing world the only assurance may be that those who have had the benefit of higher education will be (or at least, more likely to be) "people of vision and sensitivity" (58, pp. 156-57).

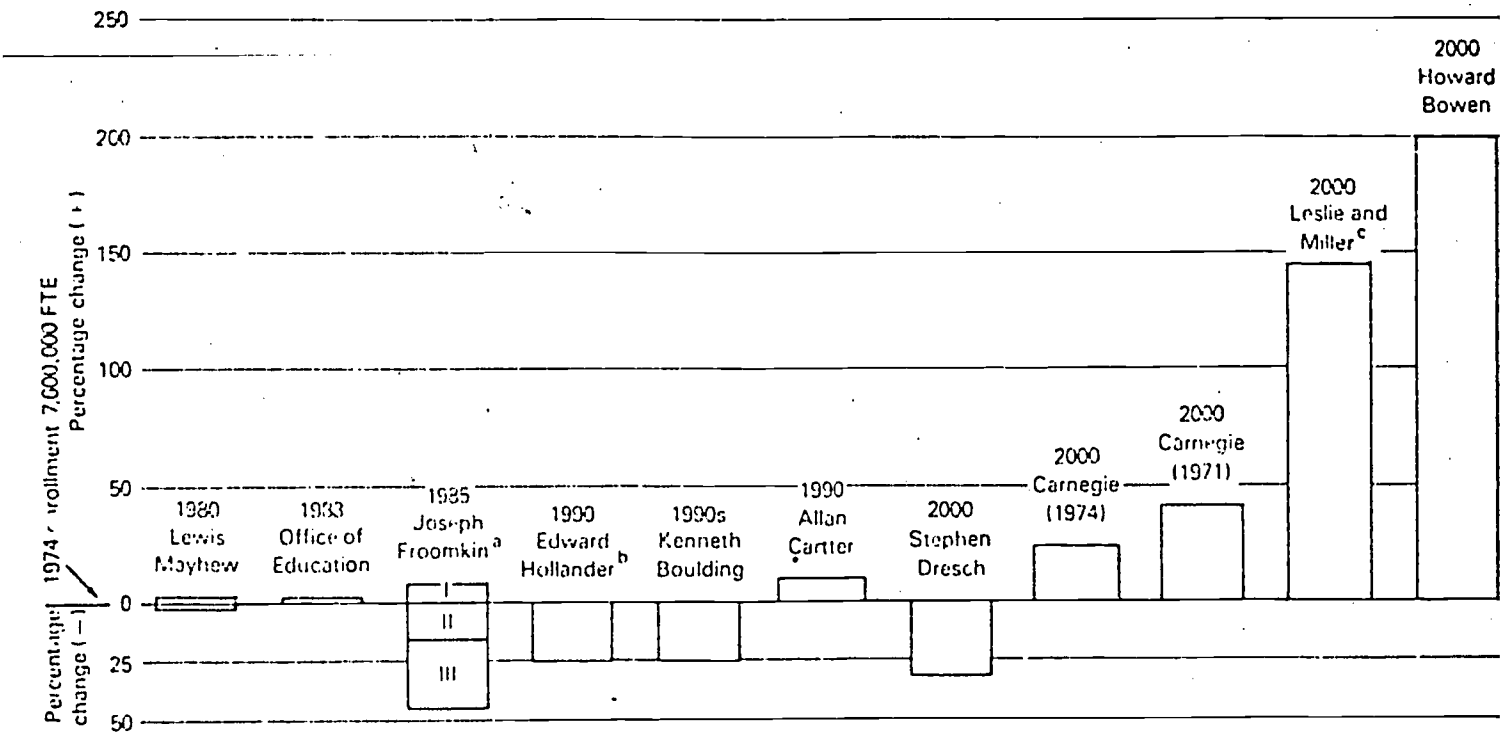
Enrollment Projections

The controversy over the nature and usefulness of higher education has become apparent in present planning: enrollment projections are directly related to anticipated institutional missions. The burgeoning of colleges and universities in the 1960s and 1970s has been a result of both the "baby boom" and the concept of "rising expectations," that a college degree would be a passkey to a better life. To those who visualize the beginnings of a decline in the importance of college (chiefly because of the lack of jobs for advanced degree holders, the cheapening of the baccalaureate degree, and the drop in the population of 18- to 24-year-olds), the future is grim: Stephen Dresch (67, pp. 144-45) believes that a reduction of more than 25 percent from the enrollment of 1974 is possible by the year 2000; Joseph Froomkin (67, pp. 40-42) has projected three increasingly pessimistic scenarios which forecast at the extreme a decline of almost 50 percent from 1974 levels. Similarly, Kenneth Boulding and Edward Hollander (67, pp. 144-45) have suggested decreases of approximately 25 percent.

There are, however, the optimistic projections of several educators: notably those of the Carnegie Commission on Higher Education (67, pp. 146-47), one by Howard Bowen (67, pp. 39-41), and one recently prepared by Leslie and Miller (67, pp. 146-47). Although the Carnegie Commission's percentage of projected increase by the year 2000 was readjusted downward in 1974 from the 1971 figure, the Commission still maintains that over 25 percent more students may be enrolled in higher education in the next 25 years than the number in 1974. Howard Bowen, in keeping with his feeling of optimism, projects a 200 percent increase over the 1974 enrollment mark! Leslie and Miller do not envision this great an increase, but still conclude that future enrollments may be extremely large--nearly 150 percent more than at present. (Graph follows)

Graph of Projected Enrollments

Figure 1. How different projections and possibilities for enrollment in higher education compare with the 1974 level enrollment (percentage comparisons)



[a]Froomkin sets forth three "scenarios."
[b]Enrollment level for full-time undergraduates in the state of New York.
[c]Leslie and Miller assume that enrollment in higher education is linked directly to the rate of growth of the total gross national product. The Council has estimated the implied growth on the assumption that real GNP rises at an annual average rate of 3.5 percent a year from 1974 to 2000.

Source: *More Than Survival. Prospects for Higher Education in a Period of Uncertainty*, p. 41.

(67)

(c) Carnegie Foundation for the Advancement of Teaching
(permission to reproduce granted)

What provides these few seers the hope of a brighter future for higher education (in terms of enrollment)? Several factors can be considered, but perhaps the most important would be the belief that since the future is uncertain, education may be the best means of meeting its demands. Also, a number of variables are involved in preparing an enrollment projection and a substantial change in any one of them could influence the others. Some of these, according to the Carnegie Foundation for the Advancement of Teaching (67, pp. 46-48), are as follows: (1) state of the economy; (2) labor market changes; (3) life-styles of the young; (4) mass conscription or a volunteer military; (5) birthrate; (6) secondary school graduation rate; (7) governmental support programs; (8) graduate enrollments; (9) public demands and policies.

The concept of lifelong learning is the best possible reason, several eduators have indicated, for hope in higher education. Bowen (58) assumes that little growth will occur in the percentage of younger students attending college, but that a vast increase of older (over 25 years of age) adults entering higher education will be seen within the next two decades. The conclusion of a study by Roy Radner and Leonard Miller (105) was that the demand for higher education can be influenced in a positive manner by (1) introducing a universal two-year college program, and (2) creating a national compensatory education plan for elementary and secondary schools in which student-teacher ratios are reduced to six to one. Such programs would alleviate the present trend of teacher overproduction and would insure that existing higher education resources and facilities would be properly utilized.

Between the extremes of expansion and collapse, though, lies in all probability the future of higher education. Most educators foresee a "steady state," a time when growth will be quite slow (if occurring at all) but when progress and adjustment will be imperative. Kenneth Boulding (57) has

emphasized the importance of management in a time of "decline"--that goals must be explicit but with a degree of inherent flexibility to meet the pressures of the day. Unwise compromise, however, in the mission of an institution will only weaken its credibility. But a "new generation of administrators" must come forth to "think of more things that haven't been thought of" and who have "empathy and an all too rare mixture of compassion and realism" (57, p. 8).

Financial Issues

Such expressions as "the new depression in higher education," "academe sings the blues," "American higher education--toward an uncertain future," and "the management of decline" relate a concern that frequently involves one aspect of the future of higher education. "In short, the financial prospects of universities in the foreseeable future are dim. Costs will continue to rise, while income is likely to fall short of keeping pace" (85, p.15). With these words, R. W. Fleming has probably captured the real reason for the despair; after the bountiful years of the 1950s and 1960s higher education is facing lean decades.

Government research grants are not forthcoming to the same extent as during the past 10 years; inflation is continually reducing the purchasing power of the university's dollar; public support of its institutions is wavering in the face of such crises as the New York City insolvency. Earl Cheit's (69) study in 1971 of the financial conditions at 41 colleges and universities concluded that there is more worrying in institutions because the financial future appeared so bleak. His subsequent study in 1974 also noted the cost-consciousness of university administrations and the general feeling of fiscal insecurity.

But the greatest danger may lie in the attempt by the university to survive at any cost. To do whatever is necessary to raise sufficient funds to maintain its programs may seem practical and even commendable--it is, though, not without

its price, according to Ernest Bartell (85, pp. 20-21). Few grants are made without specific conditions; state agencies which provide operating money demand some degree of authority over its use; pandering to students in pursuit of their tuition can have repercussions. Independence from outside funding sources is and will be impossible for colleges and universities, even those in the private sector. And, if costs continue to escalate, even institutions which will agree to any condition for revenue may be forced into the "no-growth, steady-state" operating mode.

As higher education endeavors to find solutions (increased tuition, research contracts, federal and state subsidies, benevolent foundations, cooperative programs), there is a thought which may be worth considering in the years to come: Willard Quine observes that "recent curtailments of funds for higher education are apt to hasten the renaissance that prodigality failed to bring . . . affluence was in some paradoxical ways counterproductive, and, as we mourn its passing, we may console ourselves somewhat with that reflection" (84, p. 40).

Authority and Control Issues

"The politicalization of the university," declares David Henry, "can bring nothing but confusion, loss of credibility, and, ultimately, repression" (87, p. 67). The issue of control is so closely tied to the question of finance that the two merge into a significant aspect of the university's future. Dependent upon state and federal agencies for support, public higher education may be in the process of becoming a division of the government, subject to its decrees. In an effort to improve their financial position, colleges and universities sought out and received funding from the very authorities that had the power to regulate the use of their money. Hence, a gradual loss of institutional autonomy was beginning; and it would continue as each governmental agency

attempted to use the institution to further some desirable cause, according to Gerald Piel (84, pp. 148-55).

Compounding the effect of outside influence on higher education were the student rebellions of the 1960s. By equating the purpose of the university with that of a political movement, student and faculty activists thrust higher education into the sphere of social reform--and, in so doing, damaged its devotion to objectivity. For Joseph Adelson, the declaration of this argument that all knowledge is, in essence, political "may yet turn out to be the most sorrowful legacy of the sixties" (84, p. 57). Echoing this concern, Philip Hauser (85, pp. 270-72) has warned of the deleterious effects on learning when the university becomes a political institution bent on actionism. Whenever higher education abrogates its role in the creation and transmission of knowledge and assumes instead that its only function is in the application of personal beliefs to social problems, it will no longer be a valuable institution with a rightful place in society.

But because the university has become a major instrument of social purpose in the eyes of many, it has become necessary for state governments to control its actions more directly. Over a period of time, more and more states began to encourage the centralization of authority and the development of management information systems to provide data for planning. And the emphasis has been placed on the use of such information to plan and to coordinate the programs of not only one college or university but also entire systems through a statewide agency.

As early as 1905 the state of Florida had created a statewide system for higher education, but the trend seemed to develop slowly. Kentucky, in 1934, became the first state to adopt the coordinating board and Oklahoma followed in 1941, according to Kent Halstead (86, pp. 1-17). Although several states

(notably New York) had had officially established directing agencies for years, no impetus to develop control procedures really began until the growth period of the 1950s and 1960s. By 1975, however, a state agency for higher education had become the accepted way to accomplish a number of objectives: planning of new programs, preparing budgets, coordinating institutions, collecting data. To meet these objectives, 28 states (as of June, 1975) would adopt the coordinating council form of agency while 19 state would create governing boards to effectively regulate most aspects of the programs of public colleges and universities within their borders.

A further incentive for the establishment of statewide controls over higher education, suggests S. V. Martorana (116, pp. 12-15), has been Section 1202 of the Higher Education Amendments of 1972, which recommended that all states create a postsecondary planning commission. In many states this "1202 Commission" has been formed from the existing board or council; to some, such as Nebraska, it has become the first move in the direction of coordinated planning. One of the primary purposes of these Commissions, in conjunction with the existing agencies, will be to prepare comprehensive master plans of the future of higher education within the state--in effect, prescriptive projections of the desirable future.

Many educators have welcomed the advent of statewide planning as a potential means of salvation for institutions in times of financial peril. Through the careful analysis of collected data, such agencies may--with the full cooperation of the colleges and universities--greatly improve the allocation of resources and prevent much duplication of effort and programs. Louis Bender (116, pp. 63-85) feels that seven aspects of the future of higher education are directly linked to ...ning by federal, state, and university agencies: enrollment, financial resources, institutional relations, programs, faculty, instructional goals, management objectives. He concludes: "The future looks less golden than the past,

but the impetus for planning that developed during the 1960s makes me bullish about the future" (116, p. 75). All of this planning--which involves the government directly--would seem to suggest a loss of autonomy for the institution. Joseph Cronin disagrees: "The concept of systems governance sounds more monolitnic than actual practice suggests." Further, ". . . the isolationism of campuses one from another will reduce the prospect for adequate support from governments at all levels" (85, pp. 110, 112).

But not all in the academic world are so easily convinced--for the threat of governmental intervention is all too real. Once the "1202 Commissions" are fully accepted, it becomes a small matter to transfer additional responsibilities to them. "What would be more logical than to use these agencies to distribute federal funds?" a government administrator will say. If others agree with this idea, within the near future higher education could be subject to the pronouncements of these Commissions, acting in concert to promote "national policy." Already the implementation of federal guidelines in the area of affirmative action has shown the willingness of the government to impose rather arbitrary decrees; an extension of the concept by means of statewide agencies seems quite probable. ("The cost can be university autonomy," says Charles Frankel, "and that autonomy is the indispensable prerequisite for the authority of the university in free societies and the performance of its unique role" (84, p. 30).) Charles Elton has suggested in discussions with the writer that the dominant issue of the next decade for higher education may be the "1202 Commission" and its powers. Centralization of authority with an increase in bureaucratic organization has become apparent in many of society's institutions. Will this be inevitable for higher education as well?

The Institutions

There is little consensus among educators on the exact nature of tomorrow's colleges and universities. Lewis Mayhew's (96) projection is that the typical

institution will be a college of 20,000 students in a city of over 100,000 people. To Howard Bowen (114, pp. 154-65) who foresees full-time enrollments of over 14 million students by the year 2000 (with practically the entire adult population involved in some form organized education), the "colleges" of the future will be flexible and diverse: from home centers with programmed-study facilities to more conventional universities. He believes, however, that campus-centered programs will still be predominant because the campus will remain a superior learning environment.

Smaller colleges, suggests Louann Glickman (81), may form federations to insure their survival; larger institutions will continue to expand through "universities-without-walls" programs. In an attempt to hasten the educational process, regional examining institutions might serve as "processing centers" in a nationwide network. These institutions would provide opportunities for students to complete required courses more rapidly through passing appropriate tests. For the Carnegie Commission on Higher Education (64, 65, 66), the community college will be the typical institution (with programs of local interest, remedial courses, vocational training and retraining) as at least 40 to 45 percent of all undergraduates will be enrolled in these colleges. Concurring with this view, Joseph Cosand (72, pp. 134-49) feels that the potential of the community college is just now being realized; future expansion throughout the nation is a foredrawn conclusion.

With a different outlook, however, is Charles Elton (71) who believes that the "two-year college may well become only a footnote in the history of higher education." As more students begin to enter four-year institutions (admission standards having been lowered to allow these schools to compete in the "market" for students), the community college will fade away, becoming in some cases a secondary school with vocational programs. Most undergraduate instruction,

asserts Elton, will be the concern of the liberal arts college by the year 2000; and these colleges will, quite possibly, be rather small and private--not public. College will not be required for as many vocations and home learning centers will be in use, thus reducing the number of institutions greatly. Furthermore, the research institute will conduct much of the research now being performed at public universities, in Elton's projection.

Other conceptions are provided by Richard Lyman (85, pp. 156-59) and by Robert Marshak (85, pp. 192-201). While a fervent supporter of private colleges and universities, Lyman observes that their decline is clearly underway--from 50 percent of the total of institutions of higher education in 1950 to 24 percent in 1972 with no end in view. The preservation of private colleges is absolutely necessary but, unless suitable funding is provided, it may be impossible. (The existence of independent institutions could well depend upon the concept of the proprietary school--to receive the desired learning experiences, students must pay a premium.)

To Marshak, the epitome of the educational institution of tomorrow is the urban university, reaching out to all areas of its community with services specifically designed for the existing problems. By accepting the academically underprepared and by instituting relevant curricula, these metroversities can transform the society about them in many ways. Marshak's model follows closely the idea of the "multiversity" as expres by Clark Kerr (92). Through diverse programs of research and service, the multiversity would expand beyond the teaching function to become a "City of Intellect." In effect, the university is modified to become "a prime instrument of national purpose" as well.

For Allan Bloom (34, pp. 58-66), the future of a true university is bleak: "We have witnessed the failure of the university. It has become incorporated into the system of ideas and goals of the society around it. The multiversity . . . has joined hands with what appeared to be its enemy . . . ." (84, p. 59).

Concluding his dire forecast, Bloom writes: "As institutions, universities now do a great injustice to human nature" (84, p. 66). A reprieve from this tragic condition can only be found, states Allen Wallis, in re-establishing the principle of unity in the university: "What should, and largely does, unite the members of a university is . . . the ethical and aesthetic values of science, scholarship, and the intellectual life" (85, p. 75). Whatever form--community college, learning center, multiversity--the future institution of higher education takes, some sense of values and priorities must be present. Whether these goals are concerned with the immediate utility of knowledge or with its purely abstract nature will determine the mission of the institution which pursues them.

The Students

In projections of probable futures for higher education, what should be said about the students of the approaching decades? Who will they be and what will be their concerns? If present policies and attitudes continue, notes Nevitt Sanford (72, pp. 176-99), it can be surmised that they will be a diverse group--of widely differing races, cultures, classes, and degrees of intelligence. This influx of students seeking the benefits of a college education has had a dramatic effect on higher education in the past; indeed, some would characterize the effect as traumatic.

If colleges and universities attempt to entice (usually for reasons of institutional survival) potential students by "open admissions" policies which are actually "no standards" policies, the collapse of the entire system may be the eventual result. Warnings of this nature are emanating from those concerned about the intellectual integrity of the university. "The new egalitarianism, the defection of the intellectuals to populism or know-nothingism, found itself in harmony with the multiversity" (84, p. 61), states Allan Bloom.

An especially popular phrase in academic circles, "the new egalitarianism" implies a philosophy in which individuals are guaranteed even more than equality of conditions--the equality of result should be insured as well. To Robert Nisbet (26) and to Martin Meyerson (85, pp. 309-17), the university is abandoning its role in society by abolishing restrictions on the type (in terms of literacy) of students allowed to enter. If higher education continues to permit its status to be lowered by not insisting on students of quality, it will ultimately become but another insignificant part of a society of mediocrity. This is the essence of the "quality-equality" debate--an argument which may well rage into the next century.

Assuming that large numbers of students will enter some form of higher (postsecondary?) education during the next 25 years, the question of financial support comes to mind. Howard Bowen (114, pp. 145-65) visualizes few changes from the present system: low tuitions, student aid in the form of grants, and moderate use of loans. A more complex program has been described by Clifton Wharton (114, pp. 212-21) as "the Citizen's Bill of Educational Entitlement." In this proposal, the federal government would guarantee four years of full-time study within a period of 10 years to every high school graduate, contingent on admission to any accredited postsecondary institution. While the entitlement would cover only a part of the cost of the educational program, often other supplementary funds would be made available to students through work-study plans or scholarships. This guaranty of advanced education would apply regardless of need and would be progressively renewed as the individual begins to pay taxes or performs suitable service. Other state and federal support would be required by institutions to sustain the program, but the entitlement method, in Wharton's opinion, could be an effective means of providing opportunities to more students. Similar suggestions have been made by others--the "voucher system" and the

"education passport," for example. In most systems, one outcome could be increased competition for students seeking the best "b· ·." As to whether this would mean improving the quality of programs or further reducing standards is open to conjecture.

After these students of the 1980s and beyond matriculate, what can then be expected? Many will be older adults on an "education sabbatical" to enhance their enjoyment of life and to improve job skills; a large number will be international students participating in an exchange program; minorities will be represented as never before; a small group will be composed of pre-adolescents capable of college work (a return to a concept of the colonial college days). It is possible, contends Glickman (81), that these students may value materialism above all else; or, conversely, they may espouse social activism to an even greater extent than the dissenting students of the 1960s. Campus confrontations may result as the supporters of differing ideologies clash over such issues as the growth of governmental authority or personal privacy. The campuses, though, might encounter no rebellion--only the expressed concerns of intense students. But, whoever the students will be or whatever they will believe, the changes brought about will follow a traditional sequence: (1) the introduction of new ways which seem bizarre; (2) the disapproval by society of the new ways; (3) the development of rules and restrictions to prohibit them; (4) the reaction by the "children of change" to the prohibitions until the new ways are accepted in one form or another. (In thinking about these changes, could the next great surge of the student body be toward creating a classless society? If this indeed is the demand, how will higher education respond?)

The environment into which the future student enters will, in all likelihood, be quite different from the college campus of today. Surely, the traditional dormitory setting will not continue into the next century: already commuters make up a large segment of the student population and their numbers are growing.

Furthermore, suggests Harold Gores (72, pp. 290-95), the conception of living quarters will be one of flexibility and variety, not the box-like hotels of the typical university. Also, adds Howard Bowen (114, pp. 154-65), the passing of the in loco parentis doctrine has freed the university from many responsibilities--a change whose impact will not fully be felt for years. Although he believes most programs will still be closely associated with a central campus, Bowen concludes that both technology and cooperative education will profoundly affect the student's relation to his college.

If the student is not expected to constantly reside on a campus to receive an education, certainly the entire extra-curricular program will be influenced, among other things. Intercollegiate sports, fraternities and sororities, alumni activities, and even the socialization patterns of students (dating, for example) will be subject to tremendous change in the immediate future.

The Faculty

Is there a future for the college or university teacher? Dire forecasts have been made: Ph.D. production will continue to far exceed demand according to Allan Cartter (103, pp. 231-39); the teacher will be replaced by a television-computer in a home learning center; as older faculty pass away, their positions will be abolished as institutions fight for survival; unionization will be mandatory for all university employees within the decade. Much of this is but conjecture; there are, however, crucial issues which do face the professoriate.

An authority on the faculty's role in society, Walter Metzger (85, pp. 31-41) has expressed concern that "the academic profession in recent years has grown considerably less profession-like." And he is apprehensive of "a time when the profession as we know it comes to be regarded by almost everyone as an anomaly, then as a constricting anachronism, and finally as a lifeless relic of a lost and dimly remembered world" (85, p. 41). This tragedy will come about

because academicians are losing their distinctiveness as seen by the politicalization of the university, the imposed sanctions of affirmative action programs, and the assault on tenure and academic freedom. Metzger also sees the union movement in higher education as yet another symptom of the trend toward uniformity. Esprit de corps for faculty members began to disappear during the rapid growth of universities in the 1960s and was practically destroyed in the student conflicts of the time.

Unfortunately, the plight of many colleges and universities has not yet fostered togetherness: rather the concept of tenure has been assailed by non-tenured faculty members in an effort to free positions for themselves. Moreover, unpopular viewpoints (for example, those of Jensen, Shockley, and Banfield) have been subjected to vicious attack, suggesting that academic freedom may be but an illusion. Joseph Duffey (114, pp. 166-73) has voiced his concern that the question will not be whether faculty have the right to speak, but rather it will be directed to the issue of whether faculty have anything to say. Faculty may be increasingly neglected in the university, Duffey believes, and the present situation of uneasiness may be exacerbated as the combination of economic insecurity and the lack of real authority within the institution destroys faculty initiative. Quite often, then, the professoriate capitulates to the demands of the administration and the general public and abandons its responsibility to the pursuit of "the truth."

Although the possibility does exist that the faculty member of today may become expendable as technology advances, other problems are more pressing in the immediate future. Surely the issue of retaining the tenure system in the face of an academic "buyer's market" must be addressed. One solution which has proven effective on some campuses has been described by John Kemeny (85, pp. 87-96). He notes the value of a retirement plan by which less productive older faculty members are given an opportunity to retire early with substantial benefits,

allowing younger faculty to fill the vacated positions. In no case must the tenure system be compromised, asserts Kemeny, because the vitality of the academic community rests in the protection tenure provides for academic freedom.

Faculty members must increase their awareness of their responsibilities in the process of teaching and learning. If this implies a distinction, according to William Arrowsmith (72, pp. 116-33), in faculty between those who conduct research and those who teach, so be it. In his view, not enough emphasis is placed on the role of the teacher in the contemporary university; the role of the researcher is given priority. The future will demand more attention to teaching of the highest quality, Arrowsmith maintains, because of the obligation of higher education in educating larger numbers of students.

Also, students of all ages will be involved and the subject matter will be constantly increasing in complexity--again necessitating master teaching. Gradually, the research role may be filled by those employed specifically for that purpose by the university, industry, or the government. A similar division of functions for the faculty of the future has been recommended by Donald Light: "Our greatest need is to provide at least as many paths to distinction in academia as exist in the legal profession" (84, p. 259). Alternative models for academic work are required, in Light's opinion, to create a system which is both diverse and excellent.

The final word concerning faculty affairs should be that of Charles Frankel who cautions:

> History will not put up with two-facedness. . . .
> The protection and reform of higher education . . . will require a professoriate more concentrated on its common tasks and obligations, more ironically self-aware of what it has contributed to its own troubles, and better able to protect itself against its own vulgarisms (84, p. 32).

The Curriculum

Some have said that the only answer to present and future dilemmas faced by colleges and universities is innovation. Change something, anything, in an attempt to revitalize the lethargic academic world. While innovation is one key to the future of higher education, it is not a panacea for all problems. Collins Burnett (62) has pointed to a number of myths which are frequently accepted by those pressing for change: if an idea is different, it will produce desired change; merely modifying a process will create the proper change; use of dramatic innovations in technology, for example, will produce better results than by conventional methods; everything must be modified at one time to achieve results; in the area of curriculum revision, the inclusion of various topics in the desired area will produce the anticipated learning outcome. All of these assumptions can be proven false in one aspect or another; change is essential, but only in the proper context and fashion.

Those who seek to introduce innovative programs and practices, according to Burnett, must understand the methods of change: prepare a framework in which the innovation can be introduced, monitored, and evaluated; continue to reinforce the change as necessary; realize that behavior modification may be required of all involved in the process; evaluate the results by definite criteria; repeat the process as needed to verify effectiveness. If these precepts are followed, careful innovation can be of great value in the improvement of learning programs.

What trends in curricula and programs seem most promising for tomorrow? First--and most significant--is the emphasis on lifelong learning, whether in formal programs of instruction or in adult interest groups. It may be that the average person in the future will have a dozen careers in the course of his lifetime, hence the value of continuing educational experiences. Also, an emphasis on the study of the future itself, suggests Philip Werdell (53, pp. 272-311),

may become mandatory for all students in higher education. With the constant flux in the content of the subject matter of the disciplines, it would seem wise to look beyond the present into the possibilities of the future.

But there must be some core on which the curriculum of the future can be based. Two rather emphatic recommendations in this regard have come from Derek Bok (84, pp. 159-72) and Stephen Muller (84, pp. 148-58). Muller suggests four essentials which will be of great use regardless of future exigencies: (1) competency in both verbal and quantitative skills; (2) a basic grounding in history; (3) a study of human biology; (4) command of a second language to the level of full fluency. Bok's listing is strikingly similar: (1) the ability to communicate orally and in writing with clarity; (2) the capacity for careful analysis of complex issues; (3) an understanding of certain quantitative methods; (4) the ability to use a foreign language competently; (5) the knowledge of an academic discipline in some detail. In addition to these basics, a desirable curriculum would promote an understanding of the arts, the development of judgment in value questions, and the ability to effectively use skills in solving social and intellectual problems. A strong program such as this would withstand many of the pressures for curriculum reform which too often dwells on inconsequential matters.

Perhaps, then, a curriculum grounded in the liberal arts will sustain a student far better than one which stresses particular vocational skills. Graduate programs must of necessity concentrate on a specific knowledge base, but even in this area change is occurring. Of interest to many are the development of interdisciplinary doctoral programs and the creation of the Doctor of Arts degree as an alternative to the Ph.D. degree. It is as yet to early to determine if either innovation will prove viable. (Interest in the Doctor of Arts degree has flagged considerably within the past two years.)

Post-doctoral study has also become widespread in higher education; it may be that a degree beyond the Ph.D. will eventually be given by a few select universities. One view, however, which is quite hostile to the glorification of advanced degrees is that of Jacques Barzun (55, pp. 261-64) who urges that every native-born American be given a Ph.D. degree at birth and begin his education from this point. To him, the Ph.D."fetish" has been a hindrance to higher education for years; therefore, eliminate its significance in the future.

At the opposite end of the higher education spectrum, remedial programs have been instituted throughout the nation, and this trend has not abated. One can reasonably project (as more students with less adequate backgrounds enter higher education) that the "learning laboratory/remedial workshop" approach will grow still further in importance.

Of more than passing interest, the initiation of "unusual" programs on many campuses suggests that institutions devoted to specific studies will become more prevalent in the future. Such ventures as black and ethnic studies, Transcendental Meditation education, and personal awareness college programs could well become the cores around which whole cluster colleges are formed during the next 25 years. John Caffrey (108, pp. 248-59) has somewhat facetiously offered alternative models of his own: the college might become a type of "voluntary detention camp" for those who might be troublesome; colleges offering one particular activity, recreation for example, could be established; many institutions could become "survival universities" in which the entire course of study would concern basic survival in tomorrow's world of pollution, overpopulation, and bureaucratization.

Programs of future colleges could be based, muses Caffrey, on either a cafeteria-supermarket or a restaurant model. In the former, students would select those courses and experiences they believe will be useful, work as they wish on them, and then go to an "inspection station" to be tested and certified.

The restaurant approach, on the other hand, would consist of programs designed to provide maximum guidance and assistance to the student, perhaps in a tutorial setting.

Other "innovations" (many of which were first tried decades ago) which could have influence on the curricula and programs of the future would include: experiential education, external degree programs, pass-fail grading, cooperative transfer programs, contractual learning, shortened professional degree programs. Although regarded as a fad by many educators, a definite trend toward integrating campus learning experiences with those obtained outside the campus has emerged. And it seems reasonable to expect that practically all universities will offer some credit for this acquisition of skills by experience--whether by work, travel, or community involvement. Several universities today (notably Northeastern University) have developed this combination of work and classroom instruction into the principle of "cooperative education," a movement which will probably grow into even greater prominence. But there is, in fact, little difference in this program and the old concept of work-study education.

The renewed emphasis on student programs which are highly individualized and consist largely of courses taken externally has already been alluded to in the comments of Caffrey. Suffice it to say, stress will be increasingly placed on student competency in specific areas as shown by a transcript rather than on a degree per se; whether this competency is gained through classwork, home correspondence courses, or on-the-job training will have little significance.

By 1980, according to Lewis Mayhew (72, pp. 200-19), the typical student's curriculum will include far fewer segmented courses. Instead, two or three interdisciplinary courses may be considered a full load for each term--much independent study and frequent tutorial sessions will be required, however. Examinations, continues Mayhew, will be for guidance, not elimination; the college will assume that students will succeed (eventually), not fail. Grades

may be of the pass-fail or pass-no credit type; students not achieving the required level of performance would repeat courses without penalty. (But competence levels could still be indicated in some fashion on the student record.)

Many students may be able to complete their professional degree programs in half the present time because of year-round attendance, intensive study, and a streamlined curriculum. There will be, though, the opposite extreme: students taking 10 or more years to complete a bachelor's degree as frequent field experience breaks will be recommended by advisors. To facilitate the education of people in a mobile society, greater cooperation between universities will allow the transfer of students from institution to institution and from program to program with much less difficulty than at present. It may be, speculates Alexander Mood (99, pp. 65-82), that a student will begin his program of study at a distant institution, remain a year, and then return home to continue his lifelong education at his local community college, which will be able to draw upon the resources of any other institution.

Although there is little unanimity on what course higher education should follow in regard to programs, this actually will work to the benefit of the entire system for the future. A Rand Corporation report (48, p. 74) in 1972 indicated that (1) research has yet to identify a variant which produces superior outcomes in relation to the teaching-learning process, and (2) existing experimental models do not as yet provide one model for mass replication. Consequently, the ever-growing variety of programs and curriculum reforms may ultimately lead to better models, but only after careful planning and evaluation.

The Technology

The full impact of technology on higher education can only be surmised: it could so radically alter the existing system that nothing resembling what we now consider to be a university would remain by the year 2000. Or, it is possible

that we have overestimated the prevailing influence of technology--colleges have not changed so drastically in terms of purpose, facilities, and instructional methods over the past century that a visitor from the 1870s would not recognize several features. The library of each institution still consists largely of books and periodicals, although microformat materials and videocassettes are increasingly added to the collection. The computer is widely used as a means of instruction today (the University of Illinois creating the best such system in its Project PLATO), but the classroom teacher has certainly not been replaced.

But what can be expected within the next few decades? Probably a continuation of the current trend toward a greater utilization of media in the learning process would seem reasonable. Micro-reduction techniques will allow entire shelves of books to be compressed onto a single sheet of microfiche which will be readable only by complex devices. Certainly the idea of institutional cooperation by means of telecommunication networks will be prominent. Libraries which already share cataloging information by means of networks (the Ohio College Library Center system, for example) will become even more dependent on electronic computers to transmit data instantaneouly from campus to campus. Extensive information searches will be possible at colleges across the nation--in effect allowing each institution to have the Library of Congress at it disposal. Of particular significance will be the development of international relationships in an electronic "World University."

Computer facilities will be enlarged on campuses to accommodate more users of computer-assisted instruction. But several problems relating to CAI must be overcome before this method becomes totally accepted: (1) the cost of equipment and line charges; (2) the tremendous amount of effort required to produce quality programs; (3) the factor of motivation once the initial enthusiasm of the student for the computer diminishes; (4) the proof that CAI promotes learning more than any

other method of instruction; (5) the evidence that the money expended for CAI would not be better spent for additional teachers.

With the further improvement of videocassette technology, yet another tool will be available for instructional use--individualized study may be in evidence as never before during the next 10 years. But between television lectures and programmed lessons will still be an important aspect of the system: the individual faculty member.

Beyond the next 15 years, assuming the exponential increase of technological knowledge, conjecturing becomes difficult. Could the computer become the dominant force in society and education--eliminating the human interface? Patrick Suppes (48, 145-57) has visions of an advanced computer technology which is almost incomprehensible: speaking, listening, reasoning devices which could perform practically every function associated with traditional learning experiences. Even more problematic is the issue of brain modification by various electro-chemical methods. Will the university student of tomorrow be able to greatly increase his learning ability through the intake of specific drugs? Should the answer be "yes," such methods exist--the entire system of education will be totally affected.

In short, will technology be only the means by which educational techniques are improved or will it become the determining factor for educational progress? Such technological totalitarianism seems to be related to the present move toward centralization of authority, for history has shown mass communication to be an essential force in governance and control. While the argument is old even within the community of higher education itself, technology has never before been as <u>beneficial</u> or as <u>dangerous</u> to the programs of the university as it is today.

Final thoughts

If the events of the last ten years have proved anything about universities, it is that they cannot be isolated from the society in which they exist, and that they are enormously resilient institutions. They will survive the frustrations of government controls and financial adversity, and they will come to terms with egalitarian pressures and the philosophical debate over their relevancy to the manpower needs of the society. In the last analysis, whether they are better or worse institutions will probably rest in the eye of the beholder, which is perhaps the way it must always be in a democracy (85, p. 15).

R. W. Fleming (1975)

So the great issues of education in 1996 could be summed up in the great issues that troubled people in the year 96 and would confront people in 2096 and all the centuries to come:

"What should a man or a woman know to be wise?
"What kind of wisdom could bring happiness--or keep open the pursuit of happiness?
"What kind of faith could bring courage to step into the unknown--to keep men and women leaping, generation after generation, into the swirling darkness of certainty, into the clouds of change?"

Not to move was to make a choice. To move was to change the future. In 1996, man was moving faster and faster. He had chosen to be aware of heights and depths--and he was becoming aware of more and more (42, p. 2).

Frank K. Kelly (1972)

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