R E P O R T R E S U M E S

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THE COLLEGIATE CURRICULUM, AN APPROACH TO ANALYSIS.

BY- MAYHEW, LEWIS B.

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THIS STUDY CRITICIZES MAJOR EXISTING THOUGHTS ABOUT COLLEGIATE CURRICULA AND SUGGESTS SOME PRINCIPLES BY WHICH CURRICULUM PROBLEMS MIGHT BE SOLVED. SOLUTIONS MUST BE DEVELOPED TO DEAL WITH SUCH CURRICULUM ISSUES AS (1) CULTURE-UTILITY, (2) GENERALITY-SPECIFICITY, (3) ELECTIVE-PRESCRIBED, (4) STUDENT ORIENTED-SUBJECT ORIENTED, (5) DISCIPLINE ORIENTED-PROBLEM ORIENTED, (6) TRADITIONAL-NONTRADITIONAL, AND (7) SCIENCE ORIENTED-HUMANITIES ORIENTED. IN RESOLVING THESE BASIC ISSUES, THE UNIVERSITY SHOULD RECOGNIZE (1) THE PROPER ROLE OF UNDERGRADUATE SCHOOLS, (2) STUDENT CHARACTERISTICS AND NEEDS, (3) GRADUATE PERFORMANCE AND ATTITUDES, (4) FACULTY MEMBER AGES, ABILITIES, AND INTERESTS, AND (5) COMMUNITY EXPECTATIONS. CURRENT AND PAST CURRICULUM PRACTICES INCLUDE (1) EXPERIMENTAL PROGRAMS STRESSING STUDENT-TEACHER INTERACTIONS, (2) COOPERATIVE WORK-STUDY PROGRAMS, AND (3) EMERGENT PROGRAMS RELATING TO CURRENT IMPORTANT PROBLEMS. A THEORY OF CURRICULUM SHOULD BE DEVELOPED ON THE BASIS OF VARIOUS POSTULATES. WITH THE POSTULATES IN MIND, EACH INSTITUTION CAN WORK TOWARD THE DEVELOPMENT OF ITS OWN CURRICULA WHILE KEEPING IN MIND CERTAIN ESSENTIAL PROCEDURES. A CURRICULUM CAN BE CONCEPTUALIZED BY UTILIZING DRESSEL'S MATHEMATICAL MODEL FOR CURRICULUM CONSTRUCTION AND A TWO-WAY CHART WHICH INCLUDES ON ONE DIMENSION THE SUBSTANTIVE AREAS OF THE CURRICULUM AND ON THE OTHER THE SKILLS, TRAITS, AND ATTITUDES NECESSARY TO USE THE SUBSTANTIVE AREAS WELL. THESE PRESENTATIONS WERE MADE AT A WORKSHOP ON INSTITUTIONAL RESEARCH SPONSORED BY THE SOUTHERN REGIONAL EDUCATION BOARD AND THE UNIVERSITY OF TEXAS (AUSTIN, TEXAS, JUNE 19-30, 1966). (HW)

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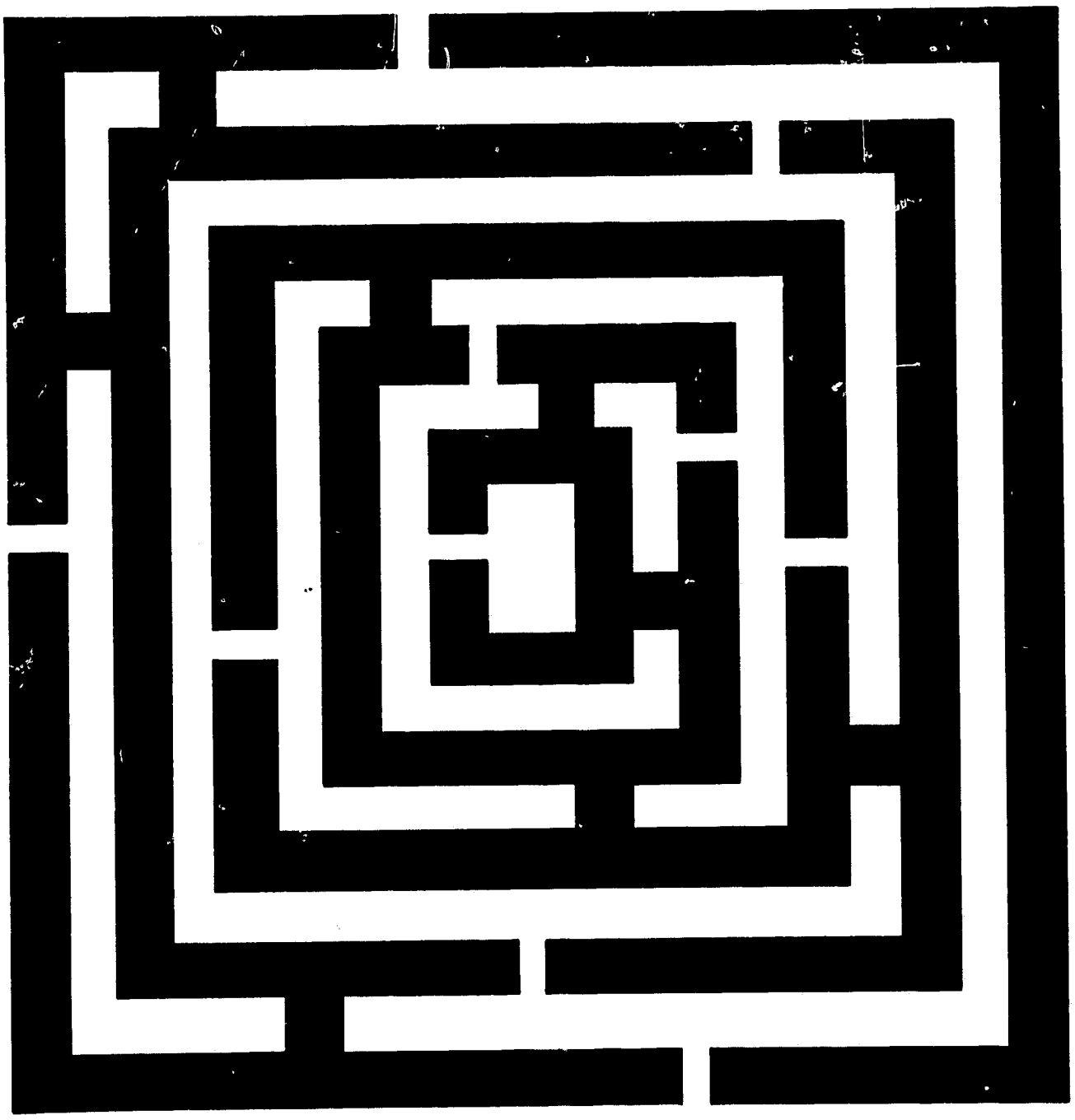
The Collegiate Curriculum

An Approach To Analysis

By Lewis B. Mayhew



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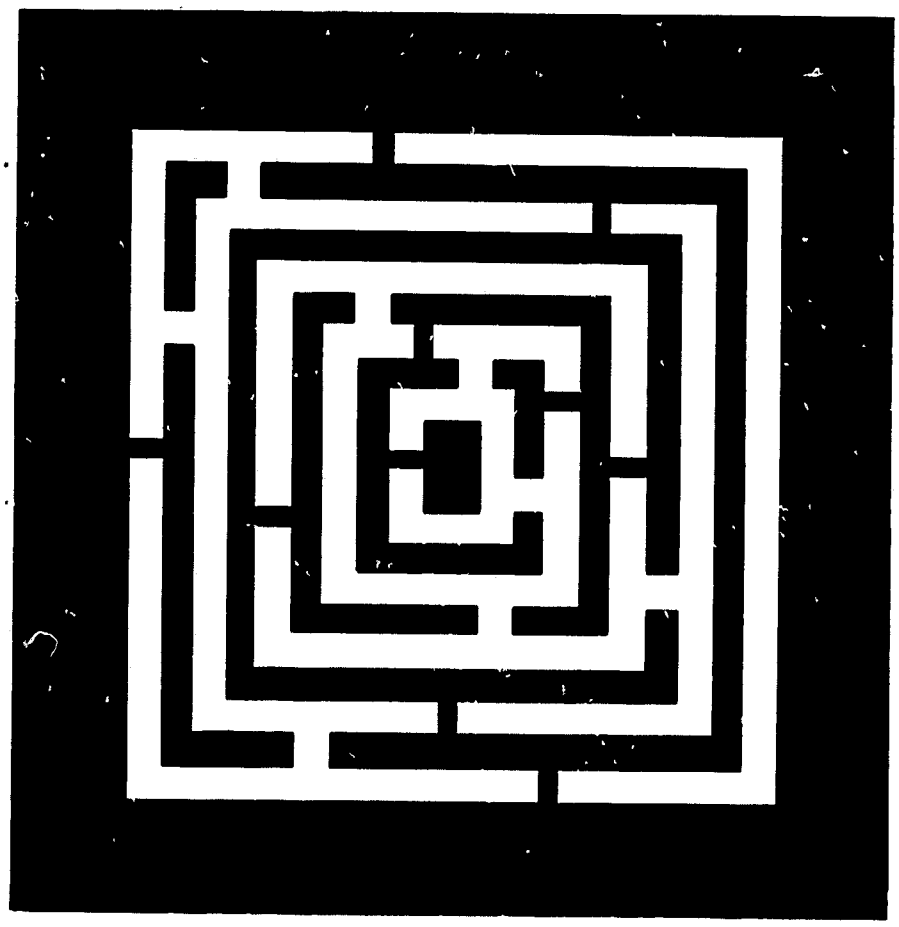

SREB Research Monograph Number 11

Southern Regional Education Board
130 Sixth Street, N.W.
Atlanta, Georgia 30313

Foreword

As institutions continue to expand and adjust their purposes to meet new demands, curricula problems become intensified. Much time and energy is devoted to questions of what should be included in the curriculum, at what level, and in what form or structure. This discussion is addressed to those concerned with collegiate curriculum building, analysis, and re-structuring. Though the issues discussed and resolutions suggested might be applicable to all levels of collegiate education, the ideas have most relevance for the undergraduate college.

This monograph grew out of a set of presentations on the topic of curriculum analysis at a Workshop on Institutional Research sponsored by the Southern Regional Education Board and the University of Texas, in Austin, Texas, June 19-30, 1966. The Workshop was conducted for new institutional research officers and was organized to help them gain greater understanding of many of the areas to which they will turn their attention in their respective institutions.

We are indebted to Professor Mayhew for his excellent presentations at the Workshop. These papers, taken from three of his presentations, have been published for general distribution because of their relevance for all collegiate faculty members and administrators.

WINFRED L. GODWIN
Director
Southern Regional Education Board

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The Curriculum: Issues, Practices And New Models

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Perhaps never before in the history of American higher education has there been such flux and change as the enterprise reacts to the pressures and problems of numbers, costs, increased amounts of new knowledge, and greater social demand for services. As colleges and universities struggle to adapt techniques and programs to new conditions, the curriculum obviously becomes a major focus of attention. This discussion represents an attempt to criticize the major existing ways of thinking about the curriculum and to suggest some principles by which curricular problems might be solved.

The solution to the curricular problems of any institution must take into consideration a number of transcendent issues. They are as old as the arguments of Socrates against the Sophists and as new as the difference between Clark Kerr's conception of the multiversity and Robert M. Hutchins' continued emphasis upon the liberal arts. Whether these issues can be resolved in any definitive way is presently moot, but they must be accommodated in any curricular scheme.

First among these issues is the question of culture vs. utility. Should the college stress, as the colonial college did, classical literature, moral philosophy, and natural philosophy, which were designed to shape the mind and form the character; or should it stress the application of knowledge to specific tasks whether agricultural, engineering, or legal? Should a modern liberal arts college use its resources to offer a non-vocational experience in the liberal arts and sciences, or should it concentrate on preparing students to do something, whether it be to teach, enter business, or succeed in graduate school?

Then, there is the matter of the general vs. the specific. Should students be introduced to broad overviews of domains of knowledge, or should they be required to concentrate effort in a limited field? The issue seems clearly involved in Jerome Bruner's emphasis on the structure of knowledge as contrasted with the behavioristic concentration on specific patterns which B. F. Skinner seems to prefer. It is also involved in the struggle between the departmental emphasis on disciplinary courses and the pleas of theorists for broad interdisciplinary courses. It is clearly reflected when one contrasts the theory which underlies general education courses in natural science with the belief of Joel Hildebrand that generalization should, and could, come only after a student had been immersed in the details of chemistry.

A third issue derives from the second. Should the curriculum be open or closed, elective or prescribed? If one takes the stance that there are common elements of culture which all must share and which it is the duty of the college to convey, then one moves to a prescribed curriculum. The Sophists did that with their concentration on dialectic, rhetoric, and grammar; in 1828 the Yale faculty did it with the answer, "... that our prescribed course contains those subjects only which ought to be understood, as we think, by everyone who aims at a thorough education." And the University of Chicago, Michigan State University, and St. John's College did the same thing with their required cores of general education. But one can take the opposite view and hold with Charles W. Eliot that each student should be allowed to study what interests him and that each professor should be free to teach what he wants to teach.

The fourth issue is whether collegiate education should be designed for an elite or for everyone. In terms of broad policy this may no longer seem to be relevant in a time filled with statements such as that of the Educational Policies Commission calling for universal higher education at least through the fourteenth grade. But for specific curricular decisions it seems as relevant now as it was in 1828 when the Yale faculty clearly argued that a college education was not for everyone. Russell Kirk argues the same line in 1966 with his suggestion that, "The colleges should return to a concise curriculum emphasizing classical literature, languages, moral philosophy, history, the pure sciences, logic, rhetoric, and religious knowledge."[1] Kirk clearly acknowledges that such a curriculum is not for everyone, but rather is designed for those destined

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[1] Russell Kirk, *The Intemperate Professor* (Baton Rouge, Louisiana: State University Press, 1966), p. 56.

for leadership. For lesser people he would reluctantly tolerate state-supported schools or no formal schooling beyond the common school years. The public junior college also wavers in its curricular choices because of the same issue. Should it emphasize its transfer curriculum with elitist connotations, or its terminal and technical program, more egalitarian in essence?

Then, there is the problem of whether the courses and programs should be student- or subject-oriented. A student-oriented curriculum exists principally to bring about changes in human personality. It regards the processes of education as of greater worth than the substance. Indeed there can be many substances. Such things as prerequisites and sequences are of much less importance than that a course be valid in the light of what students want and need. Although few would actually claim that the subject is valid even without students, one gains the impression nevertheless that to many professors this is true. They feel, with Mark Van Doren, that,

> It is his subject; he spends his life thinking about it, whether in or out of class; it is his second if not his first nature; it is what gives him joy. No student ever fails to be aware of this. ... The truly personal teacher is the most responsible to his subject. Because he knows it to be more important than himself, he is humble in its presence and would rather die than misrepresent it. It existed before him, and will exist after him; its life is long, though his is short. But if his life is to mean anything it must mean something in connection with his subject; and it had better mean that he has come to understand it as good persons before him have understood it.[2]

Related is the question as to whether the curriculum, or significant parts of it, should be discipline- or problem-oriented. Does one teach the young a set of skills and approaches which they will later employ on some human problem, or shall they be encouraged to look at problems and develop skills as they are needed? Should courses in statistics or historiography precede consideration of research problems, or should the techniques needed derive from the raising of questions? If one favors a disciplinary orientation, the curriculum can be developed logically and sequentially from courses dealing with terminology to ever higher and higher levels. Only at the apex would one look at concrete problems. But if one takes the opposite stance, then a freshman course on the problems of teenage drug use or on conflict resolution would be supported.

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[2] Mark Van Doren, "The Good Teacher," *College and University Teaching*, ed. H. A. Estrin and D. M. Goode (Dubuque, Iowa: William C. Brown, 1964), p. 40.

In the United States this takes the form of whether to emphasize only the western tradition or whether to include significant non-western elements. In theory, for the moment, the issue seems to have been resolved in favor of the more cosmopolitan view, though this is not fully implemented in practice. The most frequently taught history courses are those of American and Western European civilizations. In political science, they are American government and international affairs (which translated is Western European power politics). The continued existence of the issue even at the theoretical level is evidenced by the late Gordon Chalmers' remark that the only value of the non-West has come when it supported the basic values of the West.

Last is the matter of whether the sciences or the humanities should most characterize the undergraduate curriculum. Again, in theory, at least for the moment, the issue seems resolved. Theorists will argue that students should have experience in both. But read "scientism" for the word "science" and the matter comes to life again. Should courses be taught as laboratory exercises in which the disciplines of science are stressed, or should they be of a more philosophic nature? Should courses in history, sociology, or psychology be taught as approaches to understanding or as scientific methods of dealing with small segments of reality? Graduate education seems clearly to be in the science camp as suggested by William Arrowsmith's diatribe about graduate work in the humanities. And the fact that colleges seem so reluctant to embrace in any significant way the practice of art implies a leaning toward science. This, of course, was not always true. Recall the special colleges that had to be created to allow science into the early 19th century curriculum and that Eliot's free elective system was in a sense a stratagem to give the sciences a fairer opportunity to compete.

If one examines recent attempts at curricula construction, one finds a struggle to accommodate all of these issues. The general education movement, reflected in such programs as the sixteen course plan at the College of the University of Chicago, the University College of Michigan State, and the efforts of Harvard College described in *General Education in a Free Society*, was a movement away from free election, subject-centeredness, specific training, disciplinary orientation, utilitarianism, and elitism. It was out of that movement that interdisciplinary courses grew which focused on problems of significance to students. Some defined general education as being roughly similar to the older concept of the liberal arts and sciences, but without the aristocratic connotations of that term. And the general education stress upon the non-vocational parts of

man's life revealed that vocationalism had either gone too far, or perhaps was no longer needed.

During the 1930's and 1940's experimental colleges enjoyed a healthy development. Those schools revealed another resolution of fundamental issues. Such colleges as Bennington, Bard, Sarah Lawrence, Antioch, Stephens, and Reed emphasized curricula based upon student needs. During the first few years at Bennington, for example, no courses were even listed in the catalog. At Sarah Lawrence students were expected to select, with the help of advisers, broad areas of inquiry into which they delved in ways which made sense to them. These schools also made serious efforts to establish the performing arts. Ballet, painting, dramatic creation, and creative writing all were developed and encouraged in spite of the general belief that those courses really were not academically appropriate for colleges. Much of the hoped-for success of these experimental programs was expected to come, not from the courses themselves, but from the intimate interaction with a tutor, don, or adviser. Education was seen as a process not unlike the process of psychotherapy, which did not reveal truth but rather brought about a changed set of relationships. The similarity is no accident. The idea implicit in these experimental colleges might be judged to represent a confluence of Dewey's pragmatism and Freudian psychology.

A different order of curricular development was the cooperative education movement. In 1906, the University of Cincinnati began a program in which students combined work and study in an integrated fashion. Gradually the movement expanded and finally received legislative recognition with funds made available in the Higher Education Act of 1965. As colleges embraced cooperative work-study as a curricular ideal, they saw a number of values. By relating theory and practice, education was tied more closely to student needs. Jobs added motivation to student study. The work experience developed desirable character traits, and the mingling with workers developed a democratic understanding of others. Further, the work experience pointed toward a life of work and motivated students for it. Then, because of the work was paid employment, the program encouraged students to attend college who could not otherwise afford to attend. And the contacts with business and industry helped professors make their courses more practical.[3]

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[3] James W. Wilson and Edward H. Lyons, *Work-Study College Programs* (New York: Harper & Brothers, 1961) p. 1-2.

Of quite a different order have been the curricular developments in liberal arts colleges, especially in a number of well recognized ones. In two studies certain liberal arts colleges were found to be unusually productive of people who subsequently entered graduate schools. This finding, coupled with an unprecedented post World War II demand for college education, enabled a number of these schools to convert their programs into virtual graduate preparatory schools. Such low level vocational curricula as home economics, business, and elementary education were de-emphasized. In their places were put sequences of courses which would prepare young people for success in graduate schools. Work in the sciences and mathematics were strengthened, and the courses in the humanities were made more analytical and scientific. The large pool of applicants made selectivity possible, and so these colleges, using the services of the College Entrance Examination Board, sought only students who could survive a highly academic program. This practice usually generated conflict with the departments stressing the performing arts, because frequently students with good acting or musical talent did not possess the interests or abilities to succeed in the courses designed as preludes to graduate and professional study. Those in the arts generally lost.

Because the research in graduate schools was producing an expansion of the number of fields and specialities, the liberal arts curriculum was expanded to keep pace. Typically, interdisciplinary courses of a general education nature were sacrificed because faculties liked best to teach more specialized courses. This desire could be made respectable by the claim that this was what the graduate or professional school wanted. So widespread has been the adoption of this curricular development, even in schools which do not send many graduates into graduate schools, that Earl McGrath has suggested that there has been a real decline of liberal education because of it. Further, he points to the elite side of the development as he remarks that,

> Selective admission on limited measures of ability to pass achievement tests may close the door of opportunity to those who have the capacity to innovate, to conceive imaginative approaches to the solution of problems, to recognize, interrelate and resystematize the findings of several branches of knowledge, or who have a dedication to human welfare that will result in singular contributions to the well being of mankind.[4]

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[4] Earl J. McGrath, *The Liberal Arts College and the Emergent Caste System* (New York: Teachers College Press, 1966), p. 22.

A peculiar curricular effort, in the light of the issues, is the honors program. An early manifestation was the creation of the pass-honors degree at Swarthmore in 1922, but as an important movement it did not gain headway until the American public, prompted by Russian scientific achievements climaxed by Sputnik in 1957, demanded greater rigor in education. Generally honors programs are intended for the intellectually gifted, hence in one sense are elitist. But many of the honors courses are broad rather than disciplinary. They stress important questions and raise value issues. They accept the conflicts which college students experience and try to focus their attention on ends. Honors courses clearly seek to place work in a broad context and to aid students to establish relationships between their lives and what they study.

Then there are the house plan or cluster college experiments. These typically seek to bring a limited number of students and faculty together to follow either a prescribed curriculum or a common curriculum based upon desires of the group. Generally the students live in a residence hall which also contains classrooms, faculty offices, and sometimes a small library collection. The concept is based upon the idea that strong primary group relationships among students and faculty can make the intellectual content of the curriculum more meaningful, and hence it is clearly student-centered. The courses, even when prescribed, are usually attempts at interdisciplinary synthesis. However, with few exceptions the curricula are Western European or American in orientation. A mild exception is the Covell campus of the University of the Pacific which is Pan-American in outlook, offering courses on Latin and North American cultures taught in Spanish and English to students recruited from both cultures. The most frequently cited examples of cluster colleges and house plans have been those lodged in essentially teaching institutions. Stephens College, The College of Basic Studies of Boston University, the Raymond Campus of the University of the Pacific, and the New College of Hofstra University are all well described and seem generally to have worked. Currently, however, similar attempts are being made in the context of research-oriented universities. Stanford will create its Stern House and Professor Tussman is conducting an experimental college at the University of California at Berkeley. At Harvard the seminars appear as a modified attempt to achieve similar ends. Since the faculties at such institutions are clearly oriented toward their disciplines, relying on departmental status to gain the rewards of promotion and recognition, there is some question as to whether or not the efforts can be

sustained. Here is found stark illustration of the dilemma which several of the issues present — a subject-centered faculty, attempting to offer a student-centered curriculum.

Another curricular form which has been frequently attempted is an integrating course or seminar to help students bring together the various strands of their collegiate experience. An early example of this was the senior course at the University of Chicago which was generally well regarded and received. However, it had the advantage of following a prescribed core of integrated general education courses. To offer such a course at the end of a curriculum which featured specialized disciplinary courses has proven much more difficult. First, the course demands a broad awareness of interrelationships among various subjects which few professors seem to possess. Then, it must speak to students in non-vocational terms at the time in their lives when they have begun to anticipate life outside of the college — when they are becoming anxious about their vocations and establishing themselves in a calling.

Recently a number of colleges have attempted to resolve curricular issues though manipulation of the academic calendar. While institutions such as the University of Pittsburgh and the state-supported institutions of Florida adopted the trimester for economic reasons, other schools have used modifications to compensate for imbalances in their own programs. Earlham adopted the three-three plan which allows students to spend concentrated periods on a limited number of subjects, but still provides flexibility so that students can pursue individual interests. Another pattern is the four-one-four plan which provides intensive on-campus study for four months, then a month for individual work off campus, followed by four more months of on-campus formal experience. A variant of this pattern, used by Mount Holyoke, is one which provides for two long terms followed by one shorter term. Students are supposed to work on their majors and other requirements during the first two terms and then use the short last term to take one course each year of an exploratory or synthesizing nature.

There are, of course, many more experiments. Wellesley has cut the number of courses which a student may take from five to four and has made one of the four in each of the freshman and sophomore years a large lecture course having no discussion session. Not only is this scheme economically sound, but it is intended to train students to learn in large groups and to assume full responsibility for out-of-class preparation. Stanford offers elective senior courses, taught by major professors, which attempt to expose broad issues. These courses

and titles change from year to year as student demands and interests change. A number of colleges have developed overseas experiences as a means of providing a small group compensation for the more impersonal life on campus as well as providing some cultural shock as a way of breaking excessive parochialism.

In addition to these well established curricular efforts to resolve fundamental educational issues, there are a number of what might be called emergent attempts. The free university idea is one. Students, finding that college courses organized along disciplinary lines did not respond to the significant questions their own needs posed, have begun to band together outside the structure of the university and to create courses of a broad interdisciplinary nature. Gathering in and around large cities such as New York and San Francisco, these clusters of students and some faculty have attempted to learn about and explore the bases of the war in Viet Nam, the problems of a segregated society, censorship, and other similar problems. The idelogical rationale for these efforts is presented by Paul Goodman who utopianly believes that administrative structure can be avoided and that all students seriously wanting an education can obtain it through such groups.

The definite political bias, usually to the left, of some of the curricula content is very clear, but it would be wrong to assume that the free university concept is invalid. The Select Faculty Committee of the University of California at Berkeley finds that a number of brilliant students reject the formalism of the university and become non-students who then engage in more serious intellectual effort than ever before. To meet the needs of that group, the committee recommended that,

> The administration should arrange for *ad hoc* Courses, the topics of which may be determined from term to term by the Board of Educational Development, to supply the relevant scholarly and intellectual background to subjects of active student concerns.[5]

It is envisioned that courses such as The City or Sino-Soviet-American Relations illustrate what will be demanded.

Then, there is a developing interest in the performing arts as essential elements of academic life, not just for the professional but for all members of the academic community. Until recently students were generally exposed to art, music, or dramatic appreciation which

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[5] University of California, Berkeley Academic Senate, *Education at Berkeley, Report of the Select Committee on Education* (Berkeley, California: University of California, Berkeley, 1966), p. 128.

focused on the historical evolution of various art forms. But the contemporary avant-garde interest in op and pop art, in happenings, in home-made textiles, and in folk dancing reveals a creative urge to which the curriculum should and in various ways does speak. Colleges and universities have begun to respond through festivals of the arts such as at Stanford, Michigan State, and Olivet, and through the assumption of leadership in preparing professionals in all of the arts. Here, even in fields such as drama and the creation of motion pictures, the university is taking the place of technical or specialized schools of art. There are, for example, fewer professional dramatic schools in the 1960's than several decades earlier, although the number of students has increased significantly. Gradually universities also have begun to support and present the work of mature artists both to subsidize the artists and to expose the entire community to great opera, music, dance, theatre, and painting. Even more gradually colleges and universities have begun to encourage, through the curriculum, active student participation in the arts, even when they have no professional pretensions. Each student at the University of South Florida taking the course in humanities is required to take a studio experience, preferably in an art form with which he is unfamiliar. When planners developed St. Andrews College they urged that every student should work on some project, again, preferably of an aesthetic or creative nature. From such beginnings the time may come when curricular emphasis on the creative and imaginative might even exceed the current emphasis on the critical and analytical. Especially is this true if, as some have suggested, the survival value of the future is the ability to use leisure rather than the ability to earn a living. Although it may be repugnant to the classical academician, college credit will actually be assigned for weaving, basket making, and dabbling with paint.

A third emergent development is the attempt to restructure freshman and sophomore courses in the sciences, social sciences, and mathematics to conform, on the one hand, to new research concepts and, on the other, to fundamental changes in secondary school curricula. These efforts represent moves away from taxonomic or descriptive treatment of separate subjects in the direction of combinations which seek to establish base structures for fields. One clear implication of this development is that smaller undergraduate colleges can probably offer a more balanced and respectable program with fewer courses than they could previously when the emphasis was on the discretely descriptive. An example of this might be combining, into a single course, the first year of chemistry and physics, or botany and zoology.

A fourth development, the dimensions of which are only dimly seen at present, is the re-establishment of religion and theology as important parts of the curriculum. This takes the form of creating departments of religion and theology in secular institutions which, when properly staffed, attract heavy student enrollment into their elective courses. In the religiously related schools it takes the form of making the required work in theology more contemporary in its idiom and relevance. Within Roman Catholic schools, for example, student criticisms of their work in dogmatic theology are finally receiving attention. Better prepared theologians are being assigned to teach, and the belief that any priest can teach theology is being rejected. Further, the new theology seeks to be more congruent with the student's psychology and his existential situation — in other words, theology is brought up to date with the realities of the last half of the twentieth century. The curricular and pedagogical import of this effort, of course, is that students are searching for meaning which older structures did not provide. The ready response to serious efforts to establish meaning or relevance through religion and philosophy suggests that even in a secular age in which a "God is dead" doctrine becomes influential, some form of theology is needed.

Then there is the growing interest in independent study, not only as a way of stretching inadequate faculty resources, but as a way of letting the curriculum become more relevant to the specific interests and talents of individual students. Here is not meant the tutorial system within which students meet the instructor each week. That is a different matter and speaks to different needs. Rather it is an attempt to allow students to decide what is important to them, to formulate a plan for its elaboration, and to work on it until personally satisfied with the outcome. In its more orthodox form this independent study would consist of working on some scholarly or research project — sometimes during an inter-session period. But the emerging form seems to allow wide latitude for students to acquire academic credit for such activities as a summer in civil rights work or a mountain climbing field trip for which the student also received pay. It is based on a growing acceptance of the point that many experiences outside the classroom have collegiately educational values. Teaching grade school children in a depressd area, a summer of concentrated reading, registering voters in the South, or free lance writing could all have curricular significance.

It should be quite clear, just from this enumeration of curricular efforts, that no clear resolution of basic issues has yet been accomplished. Further, resolution is not likely, for the issues seem rooted

in man's condition, in the change and flux of life, and in society. However, each institution and each professor must attempt to resolve them. To assist in this process several suggestions can be made.

First, there should be a clear recognition that the undergraduate college is neither a graduate nor a professional school. Nevitt Sanford points out that the period of late adolescence is a distinct stage in which people have quite discrete needs. Too frequently the undergraduate curriculum has not recognized such a premise and courses have been offered which were either more relevant to secondary schools or appropriate for specialized graduate or technical work. Sanford argues that college freshmen need the opportunity to expand "impulsivity," yet are forced to concentrate on narrow disciplinary courses. Instead of rhetoric, inorganic chemistry, algebra, and world history, he believes freshmen should take courses in literature, philosophy, and the arts. Whether or not Sanford's particular formulation is correct, the point can still be stressed that if the undergraduate college persists in using graduate school solutions for undergraduate problems, Barzun's prediction of the end of the undergraduate liberal arts college may well come true.

The second suggestion, which follows from the first, is that the needs and demands of undergraduates can be identified by watching what they do outside of the formal curriculum. Frederick Rudolph argues this point well when he says to look to the extra curriculum to find out what is real education to students. In the past, out of the extra curriculum have come such essentials to the collegiate scene as libraries, fraternities, intercollegiate athletics, dramatics, music, and even speech. And it might be possible in the future to shape the curriculum nearer to the realities of student psychology if one could infer from student psychology and from student out-of-class behavior what they want and need. This is no easy prescription, for students say and do many contradictory things. But possibly the faculty could listen with the "third ear" of the therapist and infer correctly. Here it should be stressed that it is not the majority of students who will provide answers. They very likely are, as they have been for the last several decades, self-centered, passive, resistant to change, and willing to tolerate classes and study in exchange for the symbols of a university or college degree. The student minority, however, seems to be saying many things. These students are critical of the American value system which tolerates affluence and a caste system, they resent teachers who would be happier if students didn't exist, they have been led to expect a revealing collegiate experience only to discover that many courses are dry reruns of secondary school

courses, and they have begun to question the values and virtues of a business- or success-oriented society. It is from these bright, well-prepared, but disillusioned students that possible answers to curricular questions may be found. Even the demands for sexual freedom, the experiments with drugs, and the teach-ins probably have meaning for the curriculum if they can be interpreted correctly.

To make wise interpretations of how the existing curriculum is working and what student expectations are, use should be made of several sets of eyes. Faculty and administration looking at the curriculum in their corporate capacities very likely see only a limited side of the matter. This is the only charitable way to explain the serious debate which takes place in faculty meetings about such issues as a one-year language requirement, the need for classes to met the prescribed number of hours, a no-cut policy, the justifications for specialized advanced courses, and whether a major should consist of 25 or 30 hours of credit. If an anthropologist in his professional capacity were to review the curriculum, he might find that it is not language facility that is desired from a particular requirement but the suffering from a rite of passage. An ecologist looking at how the total campus functions might discover relationships between groups, buildings, and the surrounding community which are furthered by seemingly non-rational curricular requirements. And even a cartoonist looking at the curriculum most certainly could spot and illustrate inanities. This need for different sets of eyes to view the curriculum is responsible for the current popularity of the use of consultants.

Then, it may be that the computer, making application of systems or game theory, could have considerable relevance for curricular decisions and curricular structure. System analysis might be described as a method for determining,

"1. Where, When, With What, and With Whom
2. You Must Accomplish
3. What, For Whom, and Where."[6]

The purpose of this kind of analysis "is to provide cues and suggestions leading to a system or design, or to system modification

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[6] David G. Ryan, "System Analysis in Planning," *Long Range Planning in Higher Education*, ed. Owen A. Knorr (Boulder, Colorado: Western Interstate Commission for Higher Education, 1965), p. 109, citing Ruth M. Davis, "Techniques of System Design," *Military Information Systems*, ed. E. M. Bennet (Boston: Frederick A. Praeger, Inc., 1965).

or re-design."[7] While no college or university has as yet actually sought to apply systems theory to itself or its curriculum, its general relevance for dealing with complex problems suggests an ultimate utility.

In reaching curricular decisions, an institution should consider a variety of evidence. Such evidence should include:

1. Students — their characteristics, traits, desires, and needs.
2. Graduates — their performance, characteristics, attitudes, and reflections about their college experience.
3. Faculty members — their ages, abilities, interests, development, and motivations.
4. Cost — of courses, departments, divisions, colleges, recruitment, equipment, and over-all operation.
5. Expectations of those who use the products of a college — employers, husbands and wives, the military.
6. Expectations of the larger society.
7. The changing character of society and, even more importantly, the rate and direction of change.
8. Practices elsewhere and assessment of experienced gains and losses.
9. Patterns of progression through the collegiate years.

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[7] David G. Ryan, "System Analysis in Planning," *Long Range Planning in Higher Education*, ed. Owen A. Knorr (Boulder, Colorado: Western Interstate Commission for Higher Education, 1965), p. 107.

Prevailing Approaches To Curricular Analysis

2

The establishment, operation and evaluation of the curriculum ought to be one of the central responsibilities of collegiate faculties and academic administration. It is the vehicle through which the institution seeks to make its most significant impact on the lives of students. It is the organized total of courses, programs, sequences, and their directly related activities, which is generally codified in the college catalog. Yet student testimony doesn't assign a high value to the curriculum as such. In institutions as varied as Stanford, Antioch, Michigan State, Harvard, and Cornell other factors are judged of greater worth. Nor are faculties and administrative officers at all sure of how to comprise a curriculum and how to analyze and change it. In many respects curricula, especially those for undergraduates, just grow in response to the organic needs or desires or interests of the individual members of the faculty as it is constituted at any one time. As generations of faculty move on their memories are perpetuated by the continued catalog listing of the courses which reflected their individual tastes and styles. Perhaps there can be no curriculum other than the expressions of faculty interest and talent. But such a premise runs counter to an equally strong conviction that education is, or should be, a rational process. And it is disputed by the serious efforts collegiate administrators make to modify the curriculum.

Perhaps the most widely used technique of curriculum study, other than the administrative review process by which new courses each year are added to the aggregate, is a self-study. Whether it be mounted in response to requirements of an accrediting association,

to the offer of philanthropic dollars, or to an internal feeling of a need for change, the self-study provides an opportunity to talk about the curriculum. The general pattern is to divide a portion of a faculty into a number of committees of which the curriculum committee is one and the committee on objectives or purposes and goals is another. Those committees meet, talk, and circulate reports which eventually are bound and become the self-study report. The committee on purposes is supposed to establish the philosophical charter which governs what the curriculum committee decides should be the curricula content in the years ahead. Since committees are talking simultaneously about all parts of the college, it sometimes happens that radical change does suggest itself. But more frequently, since a curriculum involves vested interests of quite personal significance to power blocs within the institution, the self-study becomes a political action of a conservative sort.

A modification of the full self-study technique is the use of a few *ad hoc* committees charged with preparing recommendations specifically focused on the curriculum for later consideration by the full faculty. Knox College is currently undertaking this type of study with the aid of an outside consultant. Members of each committee prepare position papers which are then debated and finally reconciled by a steering committee. Through this process gradually emerge broad policy statements which the college can endorse. In the Knox study, the first decision was to accept an increase in institutional size as a necessary prologue to curricular reform. The mode of analysis was discussion and the method of action political.

A less often utilized approach, but one which is appealing in its directness and simplicty, is the use of an outside consultant. In one institution the president had been able to develop the physical plant and the financial structure but had been unable to stimulate the faculty to look at the curriculum. He invited in a consultant who spent much time with departments and divisions and then suggested the composition of the curriculum and the ways by which the faculty might prepare itself to offer the curriculum. Another institution secured a small foundation grant to support a panel of consultants with the stipulation that the college would implement whatever curricular recommendations the consultants suggested. Here, of course, the validity of the study rests with the wisdom of the consultant, and the effectiveness of any change rests with the amount of faculty respect he can command.

In another college which also experienced faculty reluctance to ponder its curriculum, the Board of Trustees organized itself into

working committees and attempted to recommend curricular structure. Using staff support from a director of institutional research and the critical insights of a panel of consultants, the board committee on the liberal arts attempted to establish policy guidelines for the curriculum on the assumption that the faculty would later implement them. This scheme possesses the obvious advantage of appropriate power but the clear danger that a faculty will be suspicious of whatever a board suggests. Further, a board committee, regardless of the dedication of its members, simply can't spend the enormous amount of time which conversation about a curriculum entails.

One college elected a unique form of curricular analysis which made a different use of a panel of experts. First, a staff officer prepared a profile of the college and its supporting community. This was submitted to a panel of professors from other colleges with the request that they recommend what courses and programs should be offered. The reasoning was that the experts, not affected by local community pressures, would be able to make a more objective appraisal of what really should comprise the curriculum.

Using a different sort of panel, W. W. Charters attempted to base the curriculum of Stephens College on the needs of college educated women. He asked several hundred women to keep diaries of their activities. Then, he classified and codified these into nine clusters of activities which became the structure for the curriculum. The courses developed were intended to speak to the actual behaviors of women.

Similarly, looking to the needs of people, the role and scope study of the Florida higher education system sought, through economic and social analysis, to identify the kinds of vocations the State of Florida needed. This information was then used to indicate the broad division of curricular responsibility for each of the state's public institutions. Many of the locally controlled junior colleges have developed their curricula in the same way. Courses or programs will be offered in accordance with the requests and needs of the supporting community. The trick is to determine what a community actually does want, for it is obvious that any aggressive faculty member can generate some expression of interest in almost any subject. Further, the difference between a verbal expression of interest and actual utilization of programs is often great. Thus, extension courses in engineering science might be demanded by a local industry but not used by the people they were intended to help.

A more sophisticated approach to curriculum study is represented by a recent Columbia University study of general education. A faculty committee was appointed and a distinguished sociologist was granted released time to provide the staff work. He looked at general education as it was offered in several similar institutions, the problems which his own college had faced in the past, and the changed conditions of higher education throughout the nation. In the light of all this the committee made a series of recommendations which then became the subject of faculty debate. Generally such monumental studies have provided more guidance for other institutions than for the campus which sponsored the study. For example, the Harvard report, *General Education in a Free Society,* made the concept of general education respectable but did not substantially affect the Harvard curriculum.

The history of the Harvard report underscores the most widely used device for curriculum construction, i.e., what is being done elsewhere. A dean of a new college first collects catalogs of colleges which he regards as similar to his own and then constructs his curriculum based upon normative averages. Or, a new course or program is described at a conference or in a journal article and immediately adopted by other similar (and dissimilar) institutions. Courses and programs on data processing in junior colleges and honors programs in liberal arts colleges seem to have evolved in this way. Although the United States does not maintain a ministry of education, curricular practice is remarkably uniform, largely, one suspects, because of the propensity for colleges to emulate each other. David Riesman likens the collegiate enterprise to a snake with each portion of its body seeking to catch up with the portion in front. Snake-like movement frequently means that the head, middle and tail are at approximately the same place at the same time. Riesman's worry is that the head usually doesn't know where it is going.

Contemporary practice thus suggests that discussion, political activity, judgment of experts, emulation, and search for social needs are the prevailing methods of curricular analysis and development. There are, of course, refinements. St. Andrews College uses a panel of experts to talk with faculty about new courses. Faculty committees are taken to remote places to discuss seriously their curricular problems. The Danforth Workshop on Liberal Education is an effective agency in this regard. Teams from twenty-five colleges are brought to Colorado Springs each summer for three weeks of intensive shop talk. Such a workshop does, however, foster further

normative curriculum building since what is done at one place seems attractive to professors at other institutions.

Several significant attempts have been made to develop a theory of curriculum, although, generally, these have not been used as a basis for curricula analysis. Perhaps the most widely quoted are the insights of Alfred North Whitehead who emphasizes the rhythm of education and its cyclic quality. He sees the states of romance, precision, and generalization following one another throughout life and setting the form and substance of each level of education. Thus, the infant first enjoys the romance of new objects for himself, then moves to precision as it clarifies perception of objects, and then to generalization in the form of language to classify objects. For those who continue beyond secondary school, the college or university course represents a period of generalization and the spirit of generalization should dominate the university. Courses should assume familiarity with details and should not bore students by forcing them to go over specifics which they already have studied. The function of the university is to enable one to shed details in favor of principles. But this does not suggest a prescribed curriculum for everyone. Whitehead sees at least three curricula — literary, scientific and technical — and by implication, subdivisions of these. At the college level each should stress the generalizing function. Throughout *The Aims of Education* Whitehead suggests approaches and even modes of teaching various subjects. Thus, if one teaches Latin, he justifies the reading of much Latin literature in translation, but at no time does he present justification for including one course over another.

John Henry Cardinal Newman also has things to say about the curriculum. But aside from arguing that theology has a key place in a curriculum, that a university should contain all branches of knowledge, and that students should not take too many subjects, his theories are of scant help to one who would build a curriculum. Indeed at one point he suggests that if he had a choice between a university which stressed a wide range of subjects for all students and one which did absolutely nothing save tolerate students to live together, he would opt for the latter. He does believe, as did Whitehead, that a college subject should emphasize generalization, or in his terms, philosophy, and that one subject should relate to all others. He further sees a three-way division of subjects into God (theology), Nature (science) and Man (the Humanities or Literature). As to which subjects within Science and the Humanities students should take, his theories provide no help. His lectures are more a guide to the structure of a university and a guide to teaching than a guide to the precise formulation of a curriculum.

A more recent formulation is that by Ralph W. Tyler who argues that the objectives of education are value choices beyond which one cannot go. They are conditioned by such things as the needs of society, needs of individuals, and the laws of learning. If a college develops a set of objectives which differ radically from those of another institution, there is really no way of validating one set against the other. Once objectives are stated, however, there is a clear way of converting them into curricular form. First, they must be specified into descriptions of actual behavior, then realistic learning experiences which will produce the desired behavior must be identified, and finally these experiences must be consolidated into patterns or courses. To Tyler there are appropriate and inappropriate ways of achieving objectives, and the effective curriculum is the one which best achieves whatever objectives are set for it. By implication, Tyler would argue that the first and most difficult step in establishing a curriculum is deciding what goals should be sought. Once there is agreement on this score, curriculum construction is an engineering problem.

It is really to perfecting the enginering of the curriculum that several other contemporary theories address themselves. Paul L. Dressel, who stands in direct continuation of Tyler's emphasis on behavioral outcomes, sees ten problems which must be solved if a curriculum is to be viable:

The gap between liberal and vocational education must be bridged
Course and credit hour structure must be loosened
Common experiences must be provided
Continuity, sequence and integrity should be insured
Fewer blocs of subjects should be the rule
Courses should be more infused with psychologically sound learning devices
Values should be considered
Preoccupation with the West should be combined with non-western emphases
Better learning facilities should be created
Costs should be considered.

As a tool to solve these problems, he uses a set of conservative limiting principles, such as a fixed proportion of work to be taken in common by all students to establish curricula limits. Then, within those limits, he would have the faculty, following a Tyler sort of analysis, decide what the content of courses should be.

Earl McGrath ends up with a similar set of limiting principles through a somewhat different mode of analysis. McGrath, looking

at desirable, commonly accepted outcomes of undergraduate education, finds that achievement of those outcomes bears little relationship to the number of specific courses a department offers, although the number of courses is related to the cost of education. Hence, for economic reasons, he arrives at the concept of a limited curriculum, the content of which can be changed as conditions change, but the size of which must remain constant.

There are other less engineering-styled theories of curriculum. Father Robert J. Henle, S. J. identifies five different approaches to reality, each of which must be given curricular statement. The humanistic approach deals with concrete reality. The philosophical approach is an activity of pure reflective intelligence working upon actual experience. Science also is a descriptive of pure intelligence, but it acts upon interrelationships of facts. Theology, of course, deals not with experience but with data accepted from God. Mathematics is also a discipline of pure intelligence which develops a purely intellectual world of intelligible entities applicable to the physical world. To order these into a curriculum requires a theory of knowledge based upon personal experience with ways of knowing. To select from among the five approaches and to balance the effort, Father Henle suggests several principles:

> Subjects should reveal the ultimate meaning and explanation of human life and reality
>
> Courses should provide students with personal experience appropriate to each approach to reality
>
> Courses should relate the student to his own environment and prepare him to live in his own culture
>
> Courses should be chosen for inclusion in the curriculum because of the magnitude of their possible impact on students and because of the likelihood that they will produce personal insights at basic points.

Father Henle, with his Roman Catholic orientation, has a secular counterpart in Philip H. Phenix. For Phenix, the basis of human nature is that human beings discover, create and express meanings. And meanings possess various dimensions. The first dimension is that of experience which refers to the inner life, the life of the mind. Then, there is rule, logic, or principle which allows for categories of things. A third dimension is selective elaboration which allows an unlimited combination of meanings. And the last dimension is expression or communication.

Meanings also can be divided into realms which, in turn, become the structure of the formal curriculum. The first realm is symbolics which comprises language and mathematics. The second, empirics, includes natural science. Then, esthetics contains the arts, synnoetics embraces personal knowledge, ethics includes moral meanings, and synoptics, the sixth realm, involves meanings that are comprehensively integrative. Since the available knowledge is so great in each of these realms of meaning, the prime task of the curriculum builder is to select from ths richness that which should comprise the curricular content. Phenix suggests that all content should be drawn from recognized disciplines, exemplify representative ideas of disciplines, reflect and reveal characteristic methods of inquiry, and appeal to the imagination of the student.

There also are other, more casual theories of curriculum building. The first really abdicates responsibility for the content of the undergraduate curriculum by tailoring courses to fit the requirements of the graduate school, or, in the case of junior colleges, to fit the demands of four year institutions. This method assumes that the end of education is professional competence, and that the responsibility for preparing people for such roles rests with specialized schools and departments. The undergraduate years simply provide students with the skills and knowledge which will make work easier at the next stage. Were this rationale not so widely accepted it would almost be a caricature to mention it seriously. Nevertheless, hundreds of liberal arts colleges are tempting financial ruin by following just such a theory.

The second such theory is a more thoughtful approach based upon Dewian pragmatism which holds that there is really no finite body of information. Rather, knowledge emerges and evolves as individuals seek to accommodate their conception of reality. Therefore, there should be no formal curriculum. Rather, there should be students and faculty in close proximity. As students discover what they wish to study they find an appropriate teacher and chart a course of action. In the past the curricula of Bennington and Sarah Lawrence were based upon this conception. It was also reflected by James Madison Woods, who argued that Stephens College had no curriculum but rather 2000 curricula — one for each young woman enrolled in school. The most eloquent contemporary spokesman for this approach is Harold Taylor, and its most visible manifestation is the idea of the free university.

Any systematic theory of curriculum probably will result in a better educational program than will growth without theory. The very

act of thinking through the content of education in terms of a set of presuppositions and premises forces conscious choice. Whether one translates abstract objectives into behavior, or selects from specified bodies of knowledge, or even tries to intuit what students really want when they express a desire for a given experience, the results will probably be a clearer, more effective education. Hence, in one respect one could argue that once a theory has been adopted, whether by chance or temperament, the biggest curricular problem has been solved.

This overlooks the fact however, that putting a curriculum into effect requires the solution of still other theoretical problems and also of some quite serious practical ones. First among these is the problem of criteria. How does a liberal arts college with limited resources decide which subject should be taught from among the enormous variety of subjects that could be taught? Basing curricula upon the demands of a graduate school, the interests of individual faculty, the drawing power of courses, or the existence of attractive text material seems to be a denial that a curriculum can possess an internal logic and consistency. Although each of these elements must be considered realistically, they are non-rational criteria for curriculum building.

Allied with the problem of criteria is the matter of setting limits on a curriculum in the face of the increase in knowledge. How does one decide what to drop when, for example, an infusion of non-western material must be added to the curriculum? Or, how close to the frontiers of an expanding subject should undergraduate courses be kept? The significance of this problem can be judged by the fact that some people are arguing that physics is moving so rapidly as a field that no college which is not a part of a graduate school, should even attempt to teach it. The professors outside universities just are not, and cannot be, sufficiently abreast of new developments.

Then, there is the political problem. Given the premises of academic freedom, professorial privilege, the pedagogical importance of a professor's enthusiasm for a subject, and departmental power over course offerings, how does a theoretical curriculum actually become a reality? In a few recently created institutions some effort was made to develop a theoretical curriculum before the faculty was appointed. But as quickly as the first professors arrived, the theoretical idea was modified. Similarly, a group of division chairmen, working together for a summer in isolation from the campus, can create a structure, but once the faculty starts to discuss it, such matters as the possible displacement of individual faculty members,

fears about budgetary problems, and even alumni pressures become operative.

Related to the political problem is that of administration. The two sources of official academic power are the central administration and the faculty. Although the central administration is in the position to visualize a curricular total, the faculty is generally given responsibility for curricular decisions. Thus, a central administration can know that an unbalanced curriculum is a serious financial drain on the entire institution; the trick is to manipulate the faculty into taking some action on the basis of this knowledge. The arrangement of a system which utilizes departmental thinking, a college-wide committee structure, and the knowledge of administrators is a problem for which no ideal solution has yet been found.

While these and kindred problems cannot be solved in the absolute, a start can be made, as starts have been made for other equally complicated human activities, by accumulating information. Just as the natural sciences rest upon detailed observation of nature, so should an educational theory be derived from an observation of specifics. Until now, college faculties have not really possessed much knowledge about the many factors which impinge on a curriculum. The idea of institutional research is really not very old. Now, with a concept of institutional research, with improved techniques of social research, and with improved information systems, it would seem possible to obtain a great deal of information as to how the curriculum actually is working. One must have faith, then, that a faculty faced with quantities of information will be able to make more rational decisions about the curriculum which it offers.

Consider how faculties might react if each year they were provided with evidence such as routine cost accounting for each course, department, and division; brief, regularly written reports by lay advisory committees; yearly reports of alumni reactions to the various courses; periodic polls of student opinion taken throughout the year; yearly assessment of sophomores and seniors on standardized tests; and brief resumes of significant social and curricular developments. Here is the stuff out of which eventual curriculum theory must be molded. Information of this sort could approximate for the general faculty the insights which previously have been the province of only the Whiteheads and Newmans.

Toward A Theory of Curriculum

3

Any theory must be based upon postulates. Once created, it should then produce hypotheses for testing and, ultimately, the elaboration of still further postulates. A theory concerning undergraduate curriculum rests on several postulates.

The first is a student's need for structure — structure within which his life is organized, and structure for whatever he is dealing with. Jerome Bruner seems to support this by saying that once the structure of a subject is exposed, an individual can then acquire other details throughout his life with which to elaborate that structure. Undergraduate students need to apprehend not only the structure of a subject but the structure within which the curriculum, the extra curriculum, and their personal lives are organized.

The second postulate is that every human being is searching for significance, for reason, or for meaning. Experiments on how children learn suggest that if meaning can be assigned to things, learning takes place much more rapidly than if things are organized in a random or nonsense sort of pattern. Currently, undergraduate students, particularly that small minority out of whose activities will come the dimensions of the curriculum of the future, repeatedly use the words "significance" and "relevance" as they criticize the existing college structure. The humanities and the social sciences, especially in the past, have failed to respond to this desire of undergraduate students for relevance and significance. Very likely the sciences have been equally culpable, but scientists have been able to persuade students otherwise. Rose Goldsen of Cornell points out that, because of the present intellectual climate, students are willing to put up

with considerable drudgery and not a little nonsense in science classes because the scientists have convinced them that putting up with drudgery and nonsense is necessary for something the students ultimately want. This is a pseudo-relevance which students have been talked into accepting. She argues that people in the social sciences and humanities have not been similarly successful. Students come to courses in psychology really wanting insights into their own feelings, emotions, and motivations, but they get introduced to the physiology of perception. Students come to the humanities wanting some contact with the ideas of grief and joy, death and life, and instead they get scholarly textual criticism and memorization of names and terms. Much of the criticism leveled at some of these subjects stems from their lack of significance. One of the reasons the free university idea has caught hold is because it purports to assign relevance to what is being read and discussed.

The third postulate is of a somewhat different order from the first two. It is that good educational practice is very likely to be good business and good management practice. One needs to look at how efficient the curriculum is, how well each of the courses draws students, how well each measures against the rest, and how comparable each is in cost. For unless the educational program is consumed by those for whom it is intended, it becomes an exercise in futility. The idea has long been abroad that the college or the university is not a business and needs to be conducted by standards and methods other than those obtained in the business community. There is much to commend this point of view. An institution may offer a number of esoteric courses for which there is no immediate demand or return on educational grounds. But the institution should make its decision to offer little-used material on rational grounds and not just because of capricious interest. Especially in the undergraduate curriculum, when one finds a course which is proving to be uneconomical, i.e., attracting few students over a long period of time, one is likely to have found a course which is not much good anyway.

The fourth postulate is that any system of education should have built into it a process for bringing about regular and consistent change. Some have argued that the entire curriculum should be revised every five years. While such an automatic arrangement might be a trifle extreme, procedures should be built in so that change comes to be expected and is not associated only with the inauguration of a new administration or a major palace revolt.

The fifth is the postulate that the purpose of the curriculum is to bring about changes in people and move people in desirable directions.

This implies that education is a rational activity and that the professional educators can, by looking at the expressed needs of their clients and the expressed and implied needs of society, determine what sorts of people the society wants and needs. The curriculum is, or should be, one of the important devices by which this comes about. Some may label this indoctrination, but one need not be afraid of indoctrination if by that term is meant the attempt, by a variety of means, to move people from one point to another and the ability to describe in advance where they are going.

The sixth postulate is that every part of the educational effort of an institution should be consistent with every other part. The colleges which Phillip Jacob, George Stern, C. Robert Pace, and Paul Heist have labeled as institutons having a peculiar potency to make changes in people seem to have a number of the same things in common. A number of these potent institutions could be described as experimental or experimenting colleges. They all have made provision for an intimate, continuous, face-to-face relationship between the student and some adult person. The whole institution, including its curriculum, reflects the inter-relationships of a consistent philosophic point of view. In contrast, a college which emphasizes intellectual freedom and seeks to encourage students to do independent intellectual work, but also maintains a rigid custodial relationship to students, is likely to be ineffective both intellectually and custodially.

The seventh postulate is that the principle of parsimony should apply to the curriculum just as much as it applies to research. What is the simplest explanation to account for all of the variables? In curricular terms, what is the simplest organization, the most parsimonious number of courses which can be presented to bring about, or have a reasonable chance of bringing about, the change in students in which the college is interested? Over-elaboration of curricula is no particular virtue, much as it might please the specialized tendencies of individual faculty members.

Eighth is the postulate that the late adolescent period in the life of Americans is a unique and distinct period within which individuals manifest several discrete needs. The late adolescent student is in need of new kinds of relationships with people. He is seeking to break away from reliance on parents as primary role models, but he is really seeking, in a good sense of the word, a parent surrogate. Hence, he does need some kinds of personal relationships with some adults in this new professional capacity. He is also in need of new kinds of group relationships. Currently, for example, students are

seeking membership in relatively small groups in which they can inter-relate at quite an intimate level. This may, of course, be an historical episode for there have been periods when the big game or the big dance were in vogue. But at present, late adolescent students are getting together in quite small groups and getting to know each other extremely well. This phenomenon is well noted in institutions where men can have apartments and women love to go to them and "play house" — to cook meals, to entertain a small group of friends, and to talk and listen to records in preference to taking advantage of some of the larger, more public kinds of entertainment.

The ninth and final postulate is that each level of education should be articulated with other levels and with life outside of the curriculum. This does not mean articulation to the point that each level is exclusively preparing students for the next level. One can be quite critical of the school which adjusts its curriculum to the demands of the next higher school — the undergraduate college tailoring its program to the graduate school, the junior college adjusting its program to the four-year school, or the high school fitting its program to the college. Such institutions have forsaken their essential selves. Rather, articulation should be close, but the ordering of relationships should be reversed. As the elementary school identifies the needs of the pre-elementary and elementary school children and develops a program to meet those needs, the secondary school should take cognizance of that program, make its adjustment accordingly, and then develop an indigenous program. The college, whether it be junior or four-year, should relate downward to the various styles which the secondary schools have produced rather than forcing the secondary schools to relate upward. Obviously this cannot be completely a one-way effort, but the emphasis should be to build upward rather than to impose downward.

With these postulates in mind, each institution can work toward the development of its own curricula stance. In so doing, however, certain essential procedures must be kept in mind.

First is the need for an honest concern by an institution, honestly expressed, for what it wants to do to its students. Unfortunately, there is considerable "monkey see, monkey do" in higher education. Sometimes one could wish that John Gardner had never coined the term "excellence," because institution after institution is now trying for excellence and defining it in extremely limited and restricted ways. The phenomenon of most institutions throughout the country looking yearningly at the selective few as models is inappropriate for a pluralistic society. The nation can tolerate only a limited number of Harvards.

Actually there is enormous variation among institutions of higher education in this country. In one institution awarding the A.B. degree, the median student ranked in the top five percent of high school graduates and the top five percent of those taking the Scholastic Aptitude Tests, while in another institution, the median student ranked in the bottom 20 percent on both high school rank and academic aptitude. There are degree granting institutions which still provide the major acculturative function of moving first and second generation children of foreign born families into the mainstream of American middle class life, while there are other institutions, awarding the same degrees, which make the assumption that students have already acquired the basic American values before college. Honesty requires that each college assess its own reality and accept it before stating its educational goals.

Second, the college should make an honest attempt to discover and to discard the ritualistic or non-functioning parts of its curriculum. Non-functioning parts of the curriculum are those which a candid, realistic appraisal would suggest have little chance of bringing about the desired changes in students. For example, one or two years of studying a foreign language will not give students much sensitivity into the foreign culture, (one can imagine how French students would judge American culture based upon the sorts of simplistic interpretations of America found in a textbook), develop facility in speaking the language, or develop facility in reading the language. All course requirements should be examined and the question asked, "Do these have a reasonable chance of bringing about the desired results?" If the answer is no, they should be evaluated and either discarded or made more effective. In the case of foreign language, for example, a reasonable alternative is to insist that students take enough foreign language to develop a reasonable facility in it.

Third, the institution should subject the entire curriculum to constant criticism, constant analysis, and constant inquiry. While the entire faculty cannot make continuous self-studies, since self-study inquiry is an extremely tiring activity, the newly forming offices of institutional research provide a device for appropriate continual analysis of the curriculum. In this context, institutional research can be defined as the continuing internal audit of the educational program of the institution.

Fourth, since education is basically a way by which important elements of a culture are passed on to new generations, the collegiate institution needs to develop ways of accumulating evidence both as

to what the society needs to have transmitted to youth and what can, in fact, be transmitted. Other social institutions also are involved in this process, but in a complex, developed society a system of education is necessary which specializes in ascertaining the elements of culture to be perpetuated and the methods for transmitting them. Too often the curriculum has been constructed without particular reference to such matters, obeying instead a tradition or a myth.

Perhaps the point can be illustrated by considering the content of courses in general education. General education is that portion of formal education which is concerned with preparing students for their non-vocational roles as citizen, family member, leisure-enjoying individual, and problem setter and solver. It is the education which provides the common universe of discourse people need in order to communicate with each other. What the content should be may be derived from absolute postulates as was medieval scholasticism, but this results in an education which ultimately loses meaning for students. It can be derived better by studying the ways people live and then developing methods for preparing students to similarly engage themselves. W. W. Charters demonstrated this method when he asked college educated women to keep diaries of their activities, analyzed them, and then built the Stephens curriculum to prepare young women for the roles which mature women actually occupy.

A college should accumulate evidence over a period of years as to what its graduates are doing, what parts of the curriculum they say benefitted them most, and what changes in the curriculum they believe would be appropriate. Further, the college should maintain close contact with its supporting public in order to ascertain their wants and needs. If there is a clear increase in the desire or need for proficiency in a foreign language or for greater awareness of non-Western cultures, then the content of the curriculum should be modified. The liberal arts college which asks future employers of its graduates what they expect of college educated men and women is similarly illustrating the technique. Such a process is time consuming and one which colleges are tempted to bypass. However, if one wishes to develop a rational curriculum, there can be no substitute for it.

Some may object to such an approach on the ground that the college ought to lead rather than follow. Such an objection overlooks the fact that basically the college is a norming institution. It is not intended to create people who reject the prevailing cultural values. Rather, it prepares people to enter into the mainstream of life in

that society. Presently, for example, a major educational problem is the education of the culturally deprived. An education which drives Negro youth further from the central tendencies of American middle class society does neither youth nor society good. Rather, the college should identify the most important knowledge, skills, and attitudes which enable people to survive in the American context and make these the substance of the curriculum. Another emerging example might be the inclusion of Negro history into the general education of most students so that a more acceptable climate is established for full entry, on terms of equality, of the American Negro into the mainstream of American life.

The substance of the curriculum should be those elements of culture which have the highest survival value for a particular clientele at a particular point in time. The institution, through careful scholarship and research, must make an effort to identify changes in the society and engage in honest speculation as to what are, and are not, contemporary survival values. For instance, the really great need may be to train people for the utilization of leisure. It is just possible that much of the current emphasis on specialized vocational training in junior colleges is 30 or 40 years too late. One can argue that were it not for the present war in Viet Nam and the associated defense build-up, the full impact of a growingly cybernated society would be felt through mass unemployment. One can anticipate the time when even some professional roles will be fulfilled by automated services. It is possible also to speculate, and thoughtful men and women are doing so, that in the foreseeable future, well within the lifetime of middle-aged adults, 10 or 20 percent of the total population will be able to man the entire productive enterprise. Tying personal identity to personal calling will be no longer feasible.

Other cultural changes which the college must identify and adjust to in curricular or extra curricular terms relate to traditional value systems. What kinds of value statements shall institutions present to young people? The curriculum must accommodate to problems caused by rapid and fundamental shifts in society and since some cultural elements become obsolete so quickly, continuous research is a necessity. As one example, young people need help in developing personal value stances on things such as sexual behavior in the light of the revolutionary development of "the pill."

Last, the curriculum of the college should be genuinely related to pedagogical realities. A student course load at many institutions is five different subjects taken at the same time, but anyone who expects students to study five different subjects is in for a great

disappointment. Catalogues typically state that students are expected to study two hours outside of class for every hour in class, and in many institutions this also opens areas for shattering disillusionment. In theory college teaching and college subjects are different from high school work because colleges emphasize generalization and presuppose possession of the relevant corpus of facts, but these claims should be tested by reality. Unduly heavy faculty teaching loads invite the most superficial sort of two-textbook teaching in which the poorer textbook is assigned to the students and the lectures are based on the better one. Only by limiting the number of separate preparations can there be any hope that the college teacher will be able to keep track of the mounting amount of material available for almost any subject listed in the college catalogue.

With similar reasoning, one can argue that no student shall be allowed to take more than three courses at any one time, and preferably no more than four different courses over a full year. One also can argue that with the exception of only a few courses, no more than one and one-half hours of formal face-to-face classroom contact should be permitted for any given week for any course. It is demanding more than human ability allows to expect a professor to be truly creative in a fifteen-week semester course meeting three times a week. Relevant here is Benjamin Bloom's description of "peak learning experiences" during which the energies of the organism are so focused on the object that months and even years later the individual can register total recall. By limiting classroom contact, it might be possible for faculty members to contrive more of these peak learning experiences.

In light of these elements essential to curriculum construction and the postulates outlined earlier, one can suggest several limiting dimensions useful in working toward a general theory of curriculum. One dimension in this scheme for curriculum construction is a philosophy of education. The point has been made already that those colleges which seem to have had a marked impact on the lives of students are those which appear to operate from a consistent philosophic position which pervades the entire institution. It doesn't seem to make much difference what the philosophy is. A St. John's College can operate from what Harold Taylor would call a Rationalistic position and change its students just as much as does a Goddard College which emphasizes pure Instrumentalism.

Clearly, however, the prevailing philosophy of education of an institution will make some difference in the content of the curriculum. Three current philosophies of general education have been identified

by Harold Taylor. Rationalists base the curriculum on eternal truths and stress the great documents which have survived in the civilization. Instrumentalists believe that goals and objectives are constantly changing and that materials should change as individual needs change. Neo-Humanists seem to be more eclectic, using material of traditional value tempered by an attempt to modify them in accordance with changing idioms. A Rationalist would teach Thomas Aquinas as reflecting eternal verities, the Neo-Humanist might teach him to illustrate the intellectual development of Western civilization, and the Instrumentalist would teach him only if an individual student discovered a personal need for knowledge about St. Thomas. The important point is that the writings of St. Thomas need to be treated as cultural elements with relevance for students of today's generation. If this is not the case, and the adherents to a specific philosophy still insist upon teaching him, students will gradually reject the institution emphasizing an archaic curriculum. The fact that colleges subscribing to the Yale Report of 1828 gradually lost viability, the fact that during the 1930's and 1940's language enrollments declined, and the fact that students in Roman Catholic colleges are currently forcing revision of theology courses illustrates this point.

Viewed in this light, a philosophy of education is as likely to determine pedagogy as curricular content. The concept of revolution is taught one way if one believes that there are a limited number of basic ideas in Western civilization, the understanding of which should constitute the purpose of education. It is taught another way if one's purpose is to understand the development of twentieth century man. And it is taught in another way if a student is trying to discover how conflicts such as those in which he personally may be engaged actually are resolved. But the concept of revolution is taught in all three systems.

As a technique for conceptualizing a curriculum, a two-way chart can be useful. One dimension on the two-way chart should be the substantive areas to be included in the curriculum. In theory, sometimes, the importance of the substantive materials — the subject matter of the curriculum — is minimized. In practice this isn't done, of course, since courses are basically subject centered. One of the most important purposes of the undergraduate curriculum is to provide a common body of knowledge, facts, illustrations, and allusions necessary to enable people to communicate with each other about reality. Russell Kirk makes the point that the undergraduate curriculum is essentially a literary curriculum. It is a matter of learning how to read, to speak, and to write about a number of

FIGURE I

Conceptualization For Social Sciences Curricula

BEHAVIORAL AREAS	SUBSTANTIVE AREAS						
	History	Political Science	Sociology	Economics	Anthropology	Geography	Psychology
1. Observation, Classification and Measurement							
2. Analysis & Synthesis							
3. Questions & Answers							
4. Objectivity							
5. Skepticism							
6. Evaluation							
7. Interpretation							
8. Evidence							
9. Historical Method							
10. Geographical Approach							
11. Causation							
12. Dignity of Man							
13. Empathy							
14. Loyalty							
15. Freedom & Equality							

areas and a number of subjects. The other dimension on the chart should include the skills, traits, and attitudes necessary to use substantive materials well. Benjamin S. Bloom's *Taxonomy of Education Objectives: The Cognitive Domain,* and David Krathwohl's *The Affective Domain* suggest some of the things which could be included on the vertical axis of this two-way chart. If the collegiate curriculum can be visualized as this two-way chart with the divisions of human knowledge extending along the horizontal axis, and the skills, traits, approaches, and attitudes along the vertical axis, then it is possible to plot the most important curricular matters which should be offered. By describing a curricular concept in such form, we can readily expose where imbalances and omissions occur.

This construct may be viewed as the first step in thinking about either a college-wide curriculum or the offerings of a division or department, or even the construction of a single course. Once the framework is established it provides the limits within which courses can be built, added and subtracted. This is not unlike the idea that a work of art results when the energy of the artist experiences the limitation of the medium. The chart provides a curricular medium which imposes quite definite, quite stringent, and quite severe limitations within which the creative energies of the faculty must operate. The faculty should always have the right to put anything it wants into the curriculum, but within sufficient limitations so that the creative act results in curricular artistry. For purposes of illustration, a chart for the Social Science portion of the curriculum might resemble the one shown in Figure I. The general subjects are listed along one axis and the behaviors and values are listed along the other. Actual courses would be developed around the cells on the chart which are deemed to be of greatest significance. No particular claim is made for this chart — it is only illustrative of the principle.

The chart imposes one variety of limitations, another variety of limitations is illustrated by some general principles of curriculum construction stated by Paul L. Dressel:

1. All curriculums should start with a 25 percent college-wide or university-wide core or general education requirement. It is not necessary that the core be defined by a few courses required of all students, but it is necessary that the courses be planned for breadth and be equally suitable for all students.
2. All curriculums should require an additional 30 percent of the initial 120 credit hours in courses generally accepted as included in the liberal arts and sciences, although these courses may not always be located in the college of arts and sciences.

3. All curriculums in a single vocational college should include a common group of courses adding up to at least 10 percent of the total requirement.

4. Each major or curriculum should also specify a common depth or specialization requirement of 15 percent of the degree requirement or approximately three-fifths of the credit requirements for a departmental major.

5. Approximately 10 percent of the initial 120 credit hours should be reserved for an elective major component or for specialization directed toward sub-vocations in the general field for which a college curriculum is regarded as preparatory.

6. All curriculums should leave uncommitted at least 12 credits (10 percent) for electives to be chosen by the student and his adviser.

7. All curriculums should be carefully screened to insure that the goals are reasonably attainable in a four-year program (or other specified period) and that the courses and other educational experiences required for this attainment are appropriate in the college or university.

8. Any credit course should either develop or utilize a definable substantive body of content. Skills of a repetitive, how-to-do-it nature should be minimized as course objectives, and relegated to the laboratory, to field experience, or simply specified as required demonstrable levels of competency for acceptance, continuance, or graduation in the field.

9. Each department should offer only one major (although there must be obvious exceptions, as in foreign languages). A few courses at the junior or senior year may be oriented to subspecialties, but otherwise specialization should be at the postgraduate level.

10. Departmental specialization beyond the common requirement should be in courses offered at the junior and senior levels and developed on the assumption that the common requirements are either prerequisites or taken concurrently.

11. Special courses or sections for majors in other fields should be resisted, unless the need for them can be demonstrated to be more fundamental than a matter of one or two credits or a slightly different selection or organization of content materials.

12. Introductory course offerings in the basic arts and sciences should be developed in relation to the needs of the total college or university rather than on narrow, specialized departmental concerns. Only thus, is it possible to insist that each technical or professional curriculum use these basic courses in preference to developing its own.

13. With possibly a few exceptions, courses should be planned on a four or five credit basis with the exception that class sessions, especially in courses beyond the freshman year, may be less than the number of credits.*

14. Laboratory requirements in all courses should be reduced to a minimum by carefully defining the objectives to be met and by providing the means whereby the student achievement of these objectives can be determined.

15. Departments in areas attractive as general electives may appropriately offer an advanced course or two at the junior or senior level without prerequisites other than the relevant courses of the general core requirement. Since these courses would not fall into the sequential course organization of the departments it is probable that they would not be counted as satisfying the major requirements of the departments. The presence of such electives would permit and encourage students to broaden the scope of ther education without forcing them into unreasonable competition with students better grounded in the area.

16. Departmental credit offerings should not exceed 40 semester credit hours (excluding the offerings suggested in 11 and 15).

17. At least 18 hours of the departmental major of 30-40 hours should be a common requirement for all majors in the department.

18. One or more courses in each department should be designated as independent study, thereby permitting emphasis or specialization appropriate for individuals or small groups of students. Many of the advanced courses now listed in departments could be dropped and considered as one of the possible areas of independent study.

19. The maximum number of credits from any single department acceptable for a degree should be 40.

20. Every departmental major statement should include delineation of areas appropriate for supporting study, not so much in terms of specific courses as in terms of blocks of relevant knowledge, abilities, and skills.

21. The objectives or levels of competency required for enrollment in and for credit in each course should be defined in sufficiently clear terms so that students may be properly placed and/or granted full credit for achievement, however attained.[1]

* If the four or five-credit course pattern were adopted, requirements could more appropriately be phrased in reference to courses rather than credits. The four-credit pattern is sometimes regarded as inefficient in use of classroom space, but by arranging sessions on alternate days, five four-credit courses can be accommodated in four classrooms. It is also possible to use periods of length greater than the usual 50 minutes and have only two or three class meetings.

[1] Paul L. Dressel, *The Undergraduate Curriculum in Higher Education* (New York: The Center for Applied Research in Education, Inc., 1963), p. 83-85.

Combined with an institutional philosophy of education, the two-way chart and the dimensions of Dressel's mathematical model provide parameters for the undergraduate curriculum. The creative part of curriculum building then becomes the precision with which the important and emerging elements to be included can be rationally identified.

The need for a theory of curriculum has been argued and some of the steps toward the development of a theory have been suggested. A theory of the curriculum transcends any particular curriculum or any particular educational philosophy. It deals with the nature of the curriculum in its generic sense, ways in which curricula come into being and perpetuate themselves, ways in which curricula change, and ways in which the appropriateness of curricula can be judged. Higher education today does not have the benefit of a fully developed theory to help serve as a guide in curricular matters, but hopefully this situation will be remedied before too long a time has passed.