The Magaziner-Maxwell Report

the seed of a curricular revolution at Brown

Draft of a Working Paper for
Education at Brown University

a brand new edition from
The Open Jar Foundation

with a new foreword from authors

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The Magaziner-Maxwell Report

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Cataloging Information

ISBN 978-0-615-52953-0
LCCN 2011937073

Magaziner, Ira; Maxwell, Elliot; *with others*.

The Magaziner-Maxwell Report
(Draft of a Working Paper for Education at Brown University):
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First Open Jar Edition (October, 2011)

Published by the Open Jar Foundation (Providence, RI)

The Magaziner-Maxwell Report

FOREWORD TO THE NEW EDITION

In the Fall of 1966, seventy students set out to rethink the way that undergraduates are taught at Brown University. Eventually joined by more students and a number of professors, the group (called Group Independent Studies Project, or GISP) conducted a yearlong study of college education, its history, and the latest ideas for making it better — all in the hopes of applying what they learned to Brown. The end result was a 400-page tome that presented the group's research, proposed a philosophy of education, and set out the details of a new curriculum to implement that philosophy. Within three years, the student-centered philosophy of education presented in their report became Brown's educational philosophy, and it endures to this day.

Every Fall, more than 1,600 new undergraduates walk through Brown's Van Wickle Gates to discover a world of intellectual freedom unmatched by any other college. For most of these students, this freedom is precisely why they chose to come. Simply put, the New Curriculum defines the undergraduate experience. Today's Brown students owe a tremendous debt of gratitude to the individuals whose names appear on the title page of this book, and the countless others who were involved.

We have grand hopes for this new paperback edition of the GISP report. More than anything else, we hope that the report will get the recognition it deserves — recognition that has been hard to come by for the library-bound hardcover manuscript. We were disturbed to discover that the recent report of the Task Force on Undergraduate Education, entitled The Curriculum at Forty, makes no reference to the report or the student activists who brought it to fruition. We believe that the report's new, more accessible format will help it reach many audiences: administrative groups at Brown, like the Task Force; students in education courses at Brown and elsewhere; Brown students who are simply interested in learning where their celebrated curriculum came from; and students at other schools who are attempting to effect their own curricular change.

We hope that the occasion of this new edition's release will serve as an opportunity for Brown students to reflect on the New Curriculum as it exists today, and the degree to which it successfully carries out its goals. Like few student bodies anywhere else, the students of Brown have an ownership stake in their college's curriculum. If the curriculum is no longer living up to its ideals, the onus is on Brown students — not the faculty, not the administration — to make it better.

We hope that the availability of this new edition will help avoid misconceptions about the history of the curriculum — misconceptions that have cropped up in the past. In 2006, a group of administrators and faculty members embarked on a misguided attempt to alter Brown's grading system, based in part on the idea that the grading system was not an integral part of the New Curriculum. The forty pages of this book dedicated to grading suggest otherwise. In the 2006 incident, report authors Ira Magaziner and Elliot Maxwell personally stepped in to correct the record; in the future, we hope that they won't have to.

Finally, we hope that, like any good historical source, the new edition of the report will help future generations to avoid rehashing old questions without the benefit of previous generations' thoughts on the same issues. Many of the basic issues considered by the GISP students forty years ago are issues that we continue to struggle with today, mistakenly believing them to be unique to the present. The tension between the research and teaching roles of professors, the rise of pre-professionalism and hyperspecialization, and problems with undergraduate advising — the report confronts these issues and many others, and offers surprisingly fresh analysis in each case.

It has been a delight assembling this new edition over the past year, and we are so excited to finally share it with the community. We hope that you enjoy reading it as much as we have enjoyed putting it together.

The Board of the Open Jar Foundation
October, 2011

The Open Jar Foundation is a not-for-profit organization dedicated to the performing arts and curricular freedom in higher education.

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AUTHORS' INTRODUCTION TO THE NEW EDITION

It was more than forty years ago that a group of students and faculty began the discussions that led to the report on Brown's curriculum that is now being republished. We are relatively sure that no one who worked on that mimeographed document expected that it would someday be available electronically to people around the world. More important, the students who sought to change the curriculum, hoping to improve the educational experience for themselves and for others, had little reason to believe that a new curriculum would lead to the remarkable faculty and students that have since come to Brown, at least in part because of its adoption. And no one could have expected that Brown's "New Curriculum" would remain relatively unchanged for 40 years or more.

We are pleased that the report is being made more broadly available, but not because we believe that it provides the right blueprint for a curriculum for the twenty-first century. The report itself anticipated that the curriculum should and would change as the times changed. We hope, instead, that the report will spark discussions about the goals of higher education, the role of the curriculum, ways to evaluate students, the importance of a global perspective, the impact of the departmental organization of knowledge and governance, and other core questions. Such discussions would be particularly valuable today, when knowledge is exploding; when the Internet is providing global access to high quality educational materials and experiences, as well as massive amounts of trustworthy and misleading information; when new technologies are offering promising methods for teaching and learning and collaboration across borders — but when fewer people are obtaining degrees and more people are challenging the value of a liberal education.

If this report helps initiate or facilitate these discussions, it would clearly justify the efforts that enabled its republication. It would not disturb us if people reached quite different conclusions than we did. The report's suggestion of the need to re-evaluate the curriculum at regular intervals was based on our belief

that the very fact of a review was energizing for an institution and would improve the educational experience; we find the absence of on-going discussions in colleges and universities about the nature and purpose of higher education somewhat ironic.

Brown's "New Curriculum" has itself been reviewed several times over the last forty years, without major change. We attribute its longevity to the strength of the core principle of the report — that the student be the center of the educational experience — a principle that we still embrace. Perhaps another reason for the Brown curriculum's stability is that, unlike at many other colleges and universities, the students and faculty at Brown understand and agree with the centrality of this principle and view the curriculum as their own.

Placing students at the center of the educational experience is not a device for reducing their obligations. It places an enormous burden on them, making them responsible for their own choices and allowing them to learn from their mistakes in a supportive environment — something that we have come to see as a shared requirement for growth, whether it be in childhood, adolescence, or as a team member in the workplace. The quality of Brown graduates is testament to the value and rigor of the experience they had, even without distribution requirements, a fixed corpus of knowledge to be studied, or letter grades with pluses and minuses for every course. The report sought to encourage students to learn how to learn so that they could and would continue their education throughout their lifetimes. We think that here too, Brown graduates provide evidence that the New Curriculum has been a success.

The late 1960's were a time of great ferment in the United States. The debate over the war in Vietnam, the civil rights movement, the women's movement — all were contesting the prevailing views in our country. In a smaller way, the curricular reform movement was challenging the dominant model of higher education that had its roots in the general education movement of the 1940's and 1950's. The uncertainty about the future made it an opportune time to campaign for change; we were lucky to have been part of that debate and grateful to have had great colleagues in that effort.

Now is also a time of great ferment and uncertainty about the future. What better time than today to think together about how higher education can enable us to deal with the challenges of the coming years?

Ira Magaziner & Elliot Maxwell
October, 2011

DRAFT OF A WORKING PAPER FOR EDUCATION AT BROWN UNIVERSITY

This edition was first digitized (re-typed) by Thom Hastings while attending Eugene Lang College The New School for Liberal Arts; the Open Jar Foundation owes him a debt of gratitude for his efforts. Any observed typographical errors have been rectified, and the document has been edited to reflect a consistent style. Researchers intending to quote from the work are advised to consult the original mimeographed printings, available at many academic libraries (OCLC #8213646).

The Foundation thanks Ira Magaziner and Elliot Maxwell for their generous cooperation throughout the process of preparing this new edition; Raymond Butti of the Brown University Archives for research assistance; and all of the others who have provided help and feedback along the way.

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ACKNOWLEDGMENTS

We would like to express our thanks to Mark Augenblick for his helpful suggestions and his much needed prodding on the many occasions when we failed to meet our deadlines, and to Chris Sweck, Sharron Swol, and Joyce Reback for their help in preparing the report.

We would like to give special thanks to Dean Robert O. Schulze, whose inspiration and advice have guided the writing of this report, and whose financial support made much of the research and writing possible; and to Mrs. Winifred Sampson, who braved illegible copy and almost impossible deadlines to type a manuscript of over four hundred pages.

Finally, we would like to express our deepest gratitude to Mrs. Celia Lottridge, without whose editorial help and comment this report could never have been completed. It has been both intellectually rewarding and a great pleasure to work with her.

PREFACE

We are assuming that the purpose of a preface is to allow the authors the opportunity to apologize to the reader for at least some of the mistakes which the reader will encounter, and to express the hopes which the authors harbor for their work. There are many things for which we must ask the reader's indulgence: the superficial treatment of many subjects and the omission of countless others; the omission of footnotes and a bibliography which will be remedied shortly; the inadequacy of the reproduction which, because of limited finances, had to be done on our vastly overworked mimeography machine; the typo-graphical errors and the duplication of page numbers 46 and 117 which were overlooked in our haste; and the lack of unity and coherence which is the result of attempting a work which confronts a large and complex subject and which necessarily was prepared in sections. Finally, we would like to apologize for the delay in time between when we first proposed to release the report and when it is finally reaching the public: this was the result of our efforts to prepare a working paper worthy of both the subject matter and the institution. Some of the previous problems are due to the nature of this work; it is and should be viewed as a draft of a working paper. For all of the problems however, we apologize.

We have worked too long on this report for it not to be an expression of many of our hopes. The most fundamental one is our desire to help initiate an informed discussion about higher education in general and about education at Brown in particular. We believe that the report may help both to clarify some of the problems involved in such a discussion, and to bring out others which have not previously been considered. But we would be less than honest if we did not assert that a major goal of this work is to achieve significant reforms at Brown. If it merely starts a dialogue it has not failed, but it must lead to major changes if it is to be considered a total success.

INTRODUCTION

In the introduction to the mammoth work, *The American College*, Nevitt Stanford says, "One does not need any fixed conceptions of educational goals in order to be convinced that American Colleges are failing badly. They fail to achieve their own stated purposes; and they fail by other reasonable standards of accomplishment." These sentiments, in one form or another, are shared by almost all of the people with whom we have come into contact through reading and discussion in the course of this study. These people have ranged from college presidents and deans, professors from a wide variety of disciplines and institutions, and students from all across the country, to philosophers, psychologists, and politicians. Their criticisms have ranged from the belief that the university is not only useless but even harmful, to the charge that it is at best adequate as an institution. Most of the critics, however, agree that the university is not doing as good a job as it should.

After a year of study of the educational process at universities, we have reached a similar conclusion. Unlike those who see the university as useless, we feel very strongly that universities can be sources of valuable educational experiences for students. We are committed, in this report, to the realization of that possibility.

This report has been written to serve as a working paper for discussion, study and change at Brown University. As a working paper, it is designed to provide an orderly framework for the pursuit of answers to the questions that are being raised about education at Brown, and about higher education in general. It will also propose solutions which will serve as starting points for discussion. These solutions are only approximations, and do not even represent the main concerns of this report. Our main concerns are to express the need for a comprehensive study of the educational process in the American university today, and to initiate this type of study at Brown.

After a great deal of study, talking, listening, reading, and thinking, we are convinced that the greatest problem facing administrators, faculty members, and

students today is a lack of understanding of how to cope with the problems of the university. This lack of understanding springs from the failure to carefully consider the aims of the university, and the consequences of actions taking place within it. While a great deal of study is taking place at the university, focusing on almost all aspects of the universe, there is little study of the purposes of the university itself, of the aims of the education which it provides, and of the effectiveness, in practice, of these aims. Moreover, conversations and written materials about education are steeped in meaningless rhetoric, issues are only partly presented, not enough time is spent in considering basic questions, and remedies are forced into an incoherent, patchwork pattern — all while the university continues to operate and grow without a fundamental knowledge of where, why, and how it is going.

If we can begin this process of study, if we can attempt to gain this fundamental knowledge, and if we can watch the attempt progress in a meaningful manner, we will feel that we have succeeded.

We do not intend in this paper to enter into a discussion of student power or the differing attitudes of today's students, from which it seems to flow. While the issue of student power is one of enormous importance to the university, and should be examined critically by all members of the university community — especially the student body — considerations of power of any type are not relevant to this paper. What is most relevant and most important is the undertaking of a comprehensive study of education, and the proposal of solutions, resulting from such study, which will improve the quality of education at Brown and perhaps elsewhere. We hope that the ideas in this report will be judged on their own merits — not degraded because students wrote them, or elevated for the same reason.

The report begins with a brief history of our efforts. It continues with an analysis of some of the fallacies involved in, and weaknesses of, discussions of education which now take place and which must be eliminated if there is to be valuable exchange on the subject. Before defining what we feel are the purposes of the university, we attempt to describe the context of the American university in American society. This is begun with a brief history of the American university, which is followed by a discussion of the contemporary American university and the various trends which are affecting it. This ends the first part of the report.

The next part of the report consists of a theoretical examination of what we believe are the purposes of the university in American society — acquisition of knowledge, service to society, and the education of the young. Though we will focus on the educational function, we feel that the other purposes should be examined at length, by others. We are especially sorry that we have had to neglect the area of community service and involvement, for this area is of prime concern

today. After dealing with the first two purposes of the university, we begin to analyze educational philosophies, and then propose a philosophy of education for Brown University. This ends the second part of the report.

The final part of the report is composed of discussions of twelve academic structures of the university. Existing structures at Brown are evaluated, and proposals are then made to carry out the aims of the philosophy which we have proposed. The specific structures that we deal with are: curriculum, testing, grading, teaching methods, calendar, leaves of absence, departments, counseling, course and teacher evaluation, catalogue, extracurriculum, and foreign study. The report then ends with a brief discussion of a possible implementation of our recommendations.

Our examination of structures has been curtailed by lack of space and time, but we hope that the discussion is adequate as a foundation for future study. We have also been forced to leave out many structures which greatly influence the educational function of the university. Thus we have not dealt with decision-making, buildings, admissions, student conduct, academic freedom, technological innovation, faculty hiring and firing, et cetera. We hope that others will examine these areas in the coming year. We also hope that the two other purposes of the university — acquisition of knowledge and service to society — will receive more extensive study in the future.

We are not completely happy with this working paper and we hope that it will improve throughout the year. To this end we will be constantly revising it. Until we are satisfied with it, the reader is asked to remember that it is a working paper and to accept our apologies for its shortcomings. With these apologies given, we will begin.

1. HISTORY OF GISP

The study that has led to this working paper had its genesis last September, when a number of students at Brown University interested in improving the education they were receiving met to decide how to go about it. (Proposals had already been submitted for change at Brown, ranging from a no-course, no-grade four years to extra-curricular seminars.) In view of the success of the student-initiated experimental schools, particularly that at San Francisco State College, the group began with a definite orientation toward immediate action. After some intense discussion sessions of varying degrees of thoughtfulness, most of us saw that meaningful action was impossible until we became better informed about what has gone on and what is going on in education. Thus, to the dismay of several of the original participants, it was decided to spend a semester in the study of education. By this time, the seventy students at the original meeting had dwindled to twenty-five. At this stage, most of us felt that the study would lead to the establishment at Brown of an experimental school somewhat like that at San Francisco State.

The group began to compile a bibliography and to write to other universities for information. Soon, a number of ideas about what was wrong with education began to form, but the more talking, listening, and reading we did, the less clear-cut our ideas became. By the end of the semester, most of the fifteen remaining students were less certain about education than they had been in September. Although nearly half of this group was still primarily interested in the fairly immediate goal of establishing an experimental college, it was decided to continue and to formalize the study of education further during the second semester. The discontent with the educational process remained and was perhaps even more intense than in September, but the reasons for the discontent, and possible means of solving the problems that caused it, had become more elusive.

To the surprise of those remaining, some eighty students and fifteen professors registered for the second semester project, which had acquired the less-than-apt name of GISP (Group Independent Studies Project). From the size of

the registration and the interest expressed by others, it seemed obvious that those interested in curricular reform were far from being a small and isolated group of malcontents. Those registering for the course included people from every section of the student population, freshman to senior, fraternity and independent, physics major to history major, and students on academic probation to Phi Beta Kappa members. There was also a diversity of faculty members ranging from language and English professors to a professor of engineering.[1]

At the first meeting, the registrants decided to divide into six smaller groups and to examine the philosophy of education, evaluate existing educational structures, and make suggestions for constructive change. It was decided that the beginning point for each group would be a discussion of what an educational experience should be, and three books — *Aims of Education* by Alfred North Whitehead, *Between Man and Man* by Martin Buber, and *Compulsory Mis-Education and the Community Scholars* by Paul Goodman — were suggested for reading. The bibliographies which had been compiled first semester were distributed for reference, but each group, indeed each participant, was encouraged to plan his own problems for study and his own method of approach.

A clerical staff helped coordinate the activities of the groups during the semester. Speakers such as Harold Taylor and C. L. Barber discussed education with GISP participants and other interested members of the University community.

It is very difficult to list and discuss the successes or failures of this semester of study, as they are the personal impressions of the individuals who participated. Sometimes a long and boring bull session can teach the individual something about the need for structure or focus in a group, the value of which cannot be measured by the number of people who attended discussion, or by whether or not a good time was had by all. Equally, the fact that most of the groups lasted all semester and that the drop-out rate was fairly small cannot attest to success. Two of the groups ceased meeting, and two issued reports at the end of the semester. It did become apparent to many of us that our thinking during the first semester had been very simplistic and that a great deal of work, research, and thinking was necessary before we could understand the problems that were plaguing us and before we could make suggestions for improvement. We were left with the feeling that something was definitely wrong with education at Brown, and that we could make suggestions which might improve matters, and we decided on a summer of research, discussion and writing to carry out our plans.

This paper, then, is a crystallization of a year of work. Our ideas and plans have changed quite often over the year and they still change with every new book and every new discussion about education. Yet, the degree of change is

diminishing, and for the first time since our original black-and-white thinking was demolished, we feel that we have enough of a grasp of the situation to make concrete proposals and begin working for a change in a satisfying direction.

We would like to emphasize that this is a working paper. Although its scope is rather large, it is by no means complete. Several factors which influence university education have not been considered, and others have not been considered in as thorough a manner as is needed. Also, the necessity of examining the great mass that is university education in some coherent manner has forced us to dissect the topic along certain lines. Although we believe our approach to be a logical one, we realize that a different method of attack could reasonably be taken. And although we feel our suggestions are good ones, we recognize that there are other good suggestions to be made, and we hope that they will be made. We have spent the greater part of our lives involved in the educational process and have spent the past year in the objective study of university education. Our study is not yet complete, but we present this paper now because we feel that larger discussion is needed. We hope that the ideas presented in this working paper will be considered on their merits, and that this paper will serve as a basis for discussion and as an impetus for creative change at Brown.

2. DIFFICULTIES OF EDUCATIONAL DISCUSSION

There are certain difficulties which we have encountered in the discussion of education. We would like to begin with an attempt to delineate some of these, to explain to the reader the difficulties we have had and, we hope, to help the reader to understand our work more fully.

First, it seemed to us that many people think about education in solely experimental terms. Thus, a person talking about comprehensive exams, distribution patterns, or grading systems is likely to base his argument on statements which begin with "When I was a sophomore . . ." or "When I taught at Yale . . . ." Of course, there is much value in the scrutiny of particular subjective educational experiences, but one must be particularly wary of over-generalizing from the personal case. Also, there are a large number of variables present in educational institutions. Yale in 1950, or even Brown in 1950, is different from Brown in 1967. A school of a thousand commuters is different than one of ten thousand residential students. Unfortunately, this type of thinking is often overused when educational topics are discussed.

Secondly, the language of the discussion of education creates, or at least manifests, several problems. Although this may not seem a problem at first, most statements on educational principles have mainly positive connotations. The goals of almost any educational philosophy sound good — how can anyone be against finding truth, extending knowledge, serving the community, or creating full human beings? Thus, we feel it imperative that all the implications of statements on education be carefully and objectively weighed.

Closely connected with this is the fact that many general notions about education are expressed in indefinable terms (which is to say that people could not agree on a definition). Discussion of education must free itself from undefined talk of truth, knowledge, service, and full human beings if it is to have meaning, and we have tried to do that in this report.

Even if meaning can be assigned to many of these abstract concepts, it is difficult, if not impossible, to translate them into practice. As R.S. Peters, the

noted English philosopher, has pointed out, goals such as serving society and seeking truth (even if people could agree on what they meant) are not the same type of goals as building a house or typing a paper. With these educational aims, one can neither outline specific procedures to follow nor know when the procedures are complete and the goal has been reached.[2] Along with this, one must remember that a theory of education may seem perfectly adequate when expressed, as it usually is, in the abstract, but may be less than adequate in actual practice. It is often hard to make the connection between all of the fine-sounding theoretical rhetoric and the actual day-to-day lectures and tests in which one participates at the university. Theoretical educational statements which are designed to guide the workings of a university must be directly related to the practices of the university, or their abstractness will cause them to be ineffective, and their positive sound may obscure the real problems involved in the structures they create.

Also, many words which once had specific meaning have lost their preciseness in common usage. "Liberal education" once referred to a specific proposal for changing the pattern of electives at Harvard. Today, such phrases as "liberal education," "general education," and "specialization," have acquired broad connotations which obscure their meaning and make their use in discussion more harmful than useful, unless they are carefully defined.

Another problem with educational thought is that there is so much of it. There are thousands of journals on education, hundreds of thousands of books on education, and one third of the people in the United States are in one way or another involved in education. Thus it is very frustrating to attempt to assess the subject. Often this has caused people to take a dim view of any attempts to study education as such. We recognize that the subject is inexhaustible and controversial, but we do not feel that therefore it should not be studied.

We would also like to caution against over-reliance on sociological and psychological studies in educational policy formation. There has been a proliferation of this type of study in recent years, high-lighted by the appearance of Nevitt Sanford's *American College*. Although it can be very valuable, we believe that this type of material is often overused and misused. Too often, transferring the conclusions reached at one institution to another or using research that is several years old sheds little useful light on the problems immediately at hand. Also, these studies often are used without careful consideration of their methodology in determining their reliability and applicability. Many times in our research, we have found the temptation to use supporting studies which were not really reliable or applicable, and it has become apparent that such use is often made of studies by educational writers. Studies sound impressive and seem authoritative, but must be used prudently.

In future discussion of education at Brown, we also hope that oversimplification in terms of cause and effect might be avoided. Often symptoms of problems of are mistaken for causes. On the other hand, in many cases symptoms will, in turn, create difficulties, even if the original problem is alleviated or loses importance. Factors are often more inter-related than can be indicated within the practical limits of discussion. In looking at a given facet of education, one must remember that it must be isolated for discussion but cannot be isolated in reality.

Perhaps the greatest problem in the discussion of education is the preconceptions that each of us (however unwittingly) harbors. Views on education are necessarily colored by underlying but usually unexpressed feelings on the nature of man and aims of society. It is difficult to outline coherent philosophies of life and society and thus many of the feelings about these subjects which color educational discussion are submerged and often not recognized. As a result, very often discussions about education are actually about some of these more basic philosophical considerations. An awareness of this, we feel, would raise the level of discussion considerably. We became aware of many of our own values and prejudices in the process of our study, and we hope to identify more in the discussion in this paper. We also came to realize how strong, yet, how difficult to see, these values and prejudices can be. We were not prepared to formulate these prejudices into a coherent philosophy, and thus we have simply tried to note our value assumptions when we make them. We think that the reader may also find himself harboring some feelings of this type, and we hope that he will make a sincere attempt to recognize this factor in his consideration of educational problems.

The initial approach that we will take in this paper is that of considering education in the context of the current American university. As we have noted earlier, this is certainly not the only valid method of approach to the problem. It makes a number of assumptions, the basic one being that a university is a place where such education can take place satisfactorily and thus that a study of the university as an institution will contribute to the growth of understanding of the educational process and its possibilities. We have found, however, that such a discussion can establish a context which is beneficial and viable.

3. BRIEF HISTORY OF THE AMERICAN UNIVERSITY

In considering the American university as a context for our discussion of education, we have found it very helpful to view the development of American education through history. We feel that such a consideration provides both a wider perspective on the current state of the university and education, and a good contextual background on which to rest a discussion of Brown University. Thus, we will now attempt a brief presentation of the history of the American university, and will use this to lead into our discussion of its current state.

The American colleges founded before 1770 — Harvard, William and Mary, Yale, New Jersey, King's, Philadelphia, Rhode Island, Queens, and Dartmouth — provided the patterns later followed by most institutions of higher learning. These first colleges, although founded by different religious sects to provide the colonies with educated clergymen, were neither rigidly denominational nor restricted to this primary function. They also showed an interest in forming a lettered citizenry and in preserving English culture. In addition, the colleges sought to provide leadership in the colonies, for, as the charter of Rhode Island (later Brown) University stated: "Institutions for liberal education are highly beneficial to society, by forming the rising generation to virtue, knowledge, and useful literature and thus preserving in the community a succession of men duly qualified for discharging the offices of life with usefulness and reputation."[3]

These early colleges should not be characterized as purely private institutions, for they maintained intimate ties with the state. At least until the beginning of the nineteenth century, they received as much state support as church assistance. In return they provided the state with valuable services aiding in the integration of the diverse elements in American society, in the advancement of learning, and in the development of citizens loyal to the state.

Despite these connections to the state, the early colleges often kept themselves apart from the population at large. They served the American aristocracy and reached the common element of the population only through its leaders. All in all, the colleges gave classical, impractical learning to the

aristocratic elements, and showed few signs of becoming popular American institutions.

The colonial colleges turned to the English universities, particularly Oxford and Cambridge, for their academic programs. The college curriculum provided a form of general education, neither specialized nor vocational, which provided a basis for the study of law, medicine, or the ministry. The colleges saw the classics as the best vehicle for molding the educated man, one who possessed a limited and well-defined type of knowledge and training. They emphasized piety rather than study of a specific field, repetition of material rather than analysis or conceptual thinking, development of the student as a whole man rather than the scholar, and order and discipline rather than adaptation to a rapidly changing world. Thus, the college community aimed at producing a specific kind of man.

The American college changed, however, as changes in America itself led to an increase in the number of institutions of higher learning. Individual states began to compete with each other in the establishment of colleges, especially those directly serving their own population. These state-financed institutions attempted to provide a "practical" type of education beyond the pale of the fixed classical tradition. At the same time, religious denominations made efforts to strengthen their influence by founding colleges all over the country. Simultaneously, expansion of the American population, combined with a growing desire on the part of middle class people for their children to attend college, increased the number of students wanting higher education.

With the greater number of colleges in America came a variety in the nature of the institutions themselves and a blurring of the ideas considered central to education in the earlier institutions. The people wanted an education more relevant to their daily lives. A rising tide of empiricism also challenged the classical curriculum.

In the period following the Revolution, more and more schools introduced courses in mathematics or natural science, as well as modern language and vocational courses. Colleges set up parallel curricula, one providing a practical, scientific education, the other a classical education. But while parallel courses presented an alternative to classical studies, they brought new difficulties. In many instances they became the province of the inferior student, and resulted in the development of men not of the sort originally intended by the colleges. The practical parallel courses also required an expansion of faculty and facilities.

Other educational innovations at the beginning of the nineteenth century worked against the classical curriculum. One new method was the admittance of the non-degree student who attended "practical" courses and received a different degree from those participating in the full, classical curriculum. A second technique minimized the time spent on classical subjects, by instituting a growing

number of requirements for courses in the modern languages, or in science and mathematics.

The University of Virginia, founded in 1824, perhaps best exemplifies the new trends in American education. In establishing the new university, Thomas Jefferson sought to further the development of "an useful American education."[4] He hoped to make the University of Virginia an institution "in which all the branches of science useful to us at this day should be taught in their highest degree."[5] "Modernity was what entitled an institution to public support."[6] The University of Virginia put popular and practical courses in an intellectual context. Students could enroll in these courses without having to study for a degree. Generally, the University of Virginia and others like it avoided the superficiality and compulsion which marked the classical tradition.

It had taken generations to construct the American system of classical education, and formidable obstacles confronted all attempts at educational reconstruction. The very inertia of entrenched social institutions had to be faced. Men of power and influence, those in a position to hasten change, viewed reforms as a threat. They feared the rise of men without refinement, who cared only for the practical and the popular. Members of the clergy, pious men threatened by the rise of empiricism, also opposed the change in the universities. The combined strength of these forces put an end to major educational reforms in the universities for nearly fifty years.

The Yale report of 1828 summarized and strengthened the reaction to reform with its comprehensive statement on the virtues of the classical curriculum. The report emphasized the Aristotelian system underlying the classical curriculum. This system implied a belief in the unity of knowledge, a unity which could be found only in certain selected areas of study. Secondly, the Aristotelian system called for a strict discipline of a man's faculties. The classical curriculum alone contained the subjects which could best discipline the mind, and it alone provided "those subjects only which ought to be understood by everyone who aims at a thorough education."[7] To those who cried out for a popular, practical education, the Yale Report replied that it was more desirable that men destined to be merchants or manufacturers or agriculturists should be "men of superior educations, of large and liberal views, of those solid and elegant attainments which will raise them to a higher distinction . . . ."[8] The Yale Report expressed confidence that the American college would best continue to serve its essentially aristocratic end with the traditional means of the classical curriculum.

Change did come, but it took the Civil War, which brought new land, new desires, and new needs, to accelerate progress. Change came inevitably, as the old curriculum related less and less to the world outside the universities. In the years immediately prior to the Civil War, these changes were foreshadowed. Elements

outside of the universities began to create the intellectual activity and excitement which was generally absent within the universities themselves. Debating and literary societies took on a new prominence because they focused on subjects of student interest neglected by the formal curriculum. Journals and informal gatherings gave attention to ignored areas which were controversial at the time. This same period saw the development of fraternities and athletic programs in American colleges to fulfill the social and recreational needs of the students.

For many, these extracurricular organizations provided the only stimulus in college. For these students, the important elements of the college experience moved from the classroom curriculum to the extra-curricular activities, from the formal to the informal. The extra-curricular activity often gave the student the excitement and fulfillment he could not find in the classroom, but it had serious drawbacks as well. Extracurricular activities tended to devalue the academic structures, resulting in a form of anti-intellectualism.

In the older institutions, extracurricular activities took the brunt of the drive for change, allowing the Yale Report philosophy to continue in the formal structures of the universities. However, other newer institutions began to react to the mounting tide of discontent. The rise of Jacksonian equality stood in clear opposition to the obvious orientation of the colleges toward the children of the rich. It also hit hard at the colleges' belief that they alone provided leaders or that educated leaders were needed at all.

Along with the trends towards the extracurricular and towards a Jacksonian influence, deviations from the classical curriculum could be seen on a limited scale. Some colleges promoted scientific and technical education, some accepted non-degree students, and others began to train teachers for model schools. Still, the American college had not yet resolved the fundamental conflict, stated by Brown University's president Francis Wayland in 1850, of whether to adopt a course of study "for the benefit of all classes"[9] or adhere to a course that appealed to one class. In a report castigating the American college, Wayland criticized colleges for becoming more and more superficial, for diluting the quantities of material presented, and for turning out men expert in no field at all. Above all, Wayland attacked the college for offering a course of study that made no sense in an environment filled with the promise of scientific development and American achievement. In his appeal for radical change, Wayland suggested an end to the fixed four-year course, freedom for the student to carry the course load he wished, a system of free course selection, and an entirely new program in applied science, agriculture, law and teaching.

Wayland's program began with enthusiasm but soon faltered for want of funds, gifted students, and faculty members able to adjust their conceptions of discipline. A president who would guide Brown back to its older, safer ways soon

replaced Wayland. Brown had chosen the path of education for the benefit of one class in the society. Most other institutions followed the same path.

These seeds of experimentation, extracurricular activities, and discontent among the people with the aristocratic nature of the universities, accompanied by the specialized needs of a rapidly industrializing society, finally brought change to the universities in the 1860's. The Morrill Act of 1862 was a significant result of the pressures which had been exerted on the college system. It provided for the foundation of the land-grant colleges, leading to the development of a whole range of institutions with a popular and practical orientation. The new era called for the kind of learning promoted by the land-grant schools, "where the leading object shall be, without excluding other scientific or classical studies, to teach such branches of learning as are related to agriculture and the mechanical arts."[10]

The colleges set up under the Morrill Act proposed a variety of cures for the state of American higher education. Several of these ideas were followed by Cornell University, which perhaps did more than any other university to institute popular and practical education as a legitimate end and to display the growing democratic spirit in American education. Only partly a land-grant college, Cornell encouraged not only practical vocational training, but also a concern for science and scholarship. The democratic impulse of the Morrill Act aimed to "promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."[11] Ezra Cornell, in founding the college, expressed this more generally when he said that his desire was to create an institution "where any person can find instruction in any study."[12]

Thus, the democratic concern, and the desire to respond to new vocational needs, marked the land-grant institutions. In addition, many other new elements soon became evident. A whole new psychology of learning developed, designed to replace the Aristotelian philosophy of classical education. President Charles Eliot of Harvard University, instrumental in changing that institution, attacked the old faculty orientation frontally when he declared "In education, the individual traits of different minds have not been sufficiently attended to. [Moreover,] the young man of nineteen or twenty ought to know what he likes best and is most fit for. . . . When the revelation of his own peculiar taste and capacity come to a young man, let him reverently give it welcome, thank God, and take courage. Thereafter, he knows his way to happy, enthusiastic work, and God willing, to usefulness and success."[13] Eliot's theory of individual difference was a far cry from the old theory of rigid discipline and balance of mind.

The option of free electives which grew from the new theory also differed radically from the sterility of the prescribed classical curriculum. The system of free electives had been foreshadowed in the programs of the University of Virginia and those of Francis Wayland. Wayland had concluded that "we

generally find that wherever a distinct love for any pursuit exists, it is accompanied by those mental endowments which ultimately lead to success."[14] Finally, in the post Civil War period did the elective principle become widespread. By emphasizing the individual and his free choice, the elective movement moved the center of education away from a fixed way of knowledge. This movement stressed the individual's self-reliance and self-expression, symbolizing the acceptance of American principles developed by Jefferson, Jackson, and Lincoln. The elective system grew even faster with the increasing emphasis on popular, practical, vocation oriented education which was also redefining the university's relationship to the society.

The elective principle also served to increase the intellectual vitality of the colleges. The sterility and compulsion involved with the old classical curriculum had often forced the student to look outside of the classroom for stimulation. The elective movement put science and other new disciplines which were previously excluded on an equal footing with the older classical disciplines. This widening of scope had to take place for the American college to move into a working relationship with the outside world. Finally, the elective principle helped bring about a new spirit of inquiry and scholarship at the universities. As Eliot claimed, "the largest effect of the elective system is that it makes scholarship possible, not only among undergraduates, but among graduate students and college teachers."[15] The older courses of study, according to Eliot, centered in elementary subjects and were only superficial. The elective system allowed the "professor to indulge his interests and the students to follow theirs; it encouraged the accumulation of knowledge and welcomed into the world of learning subjects that had been forbidden through an ill-considered belief that the ancients knew everything worth knowing."[16] The elective principle brought the individual to the center of the educational experience, and greatly widened the scope of college education.

Another influence which began to be felt after the Civil War period was that of the German university. As early as 1819, George Ticknor of Harvard praised the virtues of the German university, with its standards of scholarship, freedom of teacher-scholars, and consuming interest in learning.[17] With the lessening of the dominance of the classical curriculum, many aspects of the German university as described by Ticknor began to infuse the American college. The college began to center around its faculty members, and more particularly around the search for knowledge, or scholarship. No longer did institutions aim to produce men who would discharge their duties as members of the larger society. The college hoped instead to further the "acquisition, conservation, refinement, and distribution of knowledge." From the old classical curriculum with its revealed truths, the universities moved to a search for truth. This search was often based on the

methods and rigors of the new scientific outlooks, and was accompanied by the growth of scientific education. Thus, while the elective principle was establishing both the student as the center of the educational process and the student's right to select his own courses, the German trend was removing the whole function of education of the student away from the center of emphasis within the university.

It should be noted that the word university was first used in its present context with the founding of Johns Hopkins University in 1876. Previously, university and college had been interchangeable terms in the American educational system. Johns Hopkins, the first American university to be established in the German tradition, was to set the pattern for future universities in the United States. It was so faculty-centered that its president, Daniel Gilman, insisted that students must be well prepared enough to provide challenge and stimulation to the faculty.[18] The universities following the German example attended first to the newly developing graduate schools, rather than the undergraduate experience. These universities oriented themselves to research and scholarship, not to teaching undergraduates. They did not insist upon the unity of knowledge and revealed truth as guiding principles. The new universities based their aims on the need to train specialists, to prepare students for graduate schools, and to encourage the highest development of each separate discipline. Above all, they sought the truth, constantly and consistently, regardless of where such truth led, and what cost was paid for seeking it.

The commitment to scholarship and the burgeoning scientific and technological demands caused other fundamental changes in the university. The sheer quality of knowledge encouraged the division of formerly unified, coherent bodies of knowledge into smaller sub-divisions. This increasing departmentalization brought the benefits of both organizational efficiency and the highest possible development of the individual disciplines. Yet, with departmentalization also went certain dangers. Competition added pettiness and jealousy. The danger of the specialist's isolation from other areas of knowledge was also increased. Some noted a dearth of originality, marked by a deference to authority. Older concepts of general education and the well-rounded individual were pushed aside.

Another change immediately after the Civil War, was the re-definition of how the university could best serve the society. Emphasis was placed on vocational training and increase in democratic spirit within the institutions. In the late 1800's, the idea of community service differed from the earlier preparation-of-leaders concept promulgated in the first American colleges in the late 1700's. Universities began to teach what people wanted to know, but their concept of service to the general population went even further. They became involved in community activities as disparate as the setting up of regulatory commissions, the study of

good government, or the use of laboratory models in agriculture and engineering. The universities also took more interest in the training of teachers, and at the same time extension courses brought them even closer to a larger number of people.

Another modification in universities which became popular after the war was the introduction of co-education. This development arose partly from a logical extension of American democracy, partly from the need for practical training of women, and partly from the success of pioneering institutions such as Smith, Vassar, and Cornell.

Thus, the period between the Civil War and 1900 brought remarkable change. The common, often superficial classical curriculum gave way to an enormous variety of course offerings, with the choice of subjects being left to the individual student. Whole new areas of study developed, pushing back the frontiers of knowledge. True graduate schools, dedicated to scholarly research, were founded, along with professional schools. Universities expanded their facilities with an ever increasing number of libraries, laboratories, and museums. From classrooms dominated by teachers who sought to inculcate morals and utilized a method of recitation, American students moved to large lecture halls where Ph. D's taught facts, or to small laboratories where students strove to increase the sum of human understanding. From curricula based on the classical unity of knowledge, departments and specialties had emerged. From social isolation the university had moved to definite involvement in the larger world. Aristocratic views were discarded and a vastly greater number and variety of students were admitted. The universities began to become popular American institutions.

Certain serious drawbacks were noted in the new universities which many felt nullified the benefits. Departmentalization tended to isolate faculty and students from knowledge of other disciplines. Vocational orientation tended to destroy humanistic concerns. Larger size necessitated reliance on lecture courses, and this tended to create a feeling of impersonality and loss of individual identity. Colleges seemed to become more hyphens between high school and graduate school, with students rushing through their undergraduate education as quickly as possible.

Furthermore, dangers in the elective system came to the surface. In its flexibility and freedom it often spawned a limitless number of courses, often providing treatment as superficial as that of the old classical curriculum. By 1931 a student at the University of Nebraska could take courses in first aid, advanced clothing, ice cream and ices, football, and American English.[19] In destroying all unity of education, the elective system increased a tendency towards haphazard illogical course sequences pursued by the student without any serious purpose. As Alexander Meiklejohn later pointed out, often proponents of the elective

system were guilty of the scholar's fallacy, the belief that all knowledge is so good that all parts of it are equally good.[20] Thus the elective system, while legitimizing new areas of study, minimized the impact of those fields which sought to integrate knowledge, or to present moral and humanitarian views.

Critics of American education first focused their attention on the problem of the lack of harmony among subject areas. John Dewey viewed the discord as a result of the loss of a unifying principle. He saw a single, unified "body of knowledge, a spiritual organism." Yet the principles needed to restore integrity and breadth to the curriculum did not develop immediately. Higher education lacked what Wriston later called the inherent quality in education which would be "useful to all who possess it, at all times, and under all circumstances."[21] The critics aimed to restore this order and to reexamine the possibility of a truly "liberal" education.

Advocates of the New Humanist movement in the 1920's attacked another problem, that of the loss of humanistic and moral concerns. Universities no longer worried about man's ultimate role, but concerned themselves with immediate, practical vocational ends. In the universities a combination of courses replaced a development of the whole man. Freedom for the individual took precedence over regard for the well-being of mankind in general. Moreover, the indifferent eye of science seemed to pose a threat to any questions of morality.

The critics did not seek a reversion to the Yale Report of 1828 and the classical curriculum. Rather, they sought a reconciliation between aristocratic and democratic ideals, English and German ideals, humanism and science. This movement of reconciliation characterized almost all proposals accepted in the "counter-revolutionary" period of the early 1900's through the 1930's.

President A. Lawrence Lowell of Harvard made, perhaps, the first extensive proposal of the new period. In his inaugural address in 1909, Lowell rejected the strictly vocational function of the university and called for a general education approach in colleges. He recommended a pattern of education involving in-depth knowledge of one area and a less extensive knowledge of a number of other areas. Concentration largely in one department would be combined with distribution achieved in general courses in each of the four areas: the arts of expression, the natural or inductive sciences, the inductive social sciences, and the abstract or deductive studies. The general course was not an introductory course solely, but rather an attempt "to give to men . . . a comprehension of its [a discipline's] underlying principles of methods of thought."[22] General distribution courses would be given by individual departments within each of these areas. The adoption of the concentration-distribution system marked a significant reversal of educational trends from the nineteenth century by serving both the specialized interests and general needs of students.

A second response to the weaknesses of the elective system, the general education courses, shared the goals of the general distribution courses suggested by Lowell. Columbia University first experimented in this direction with its Contemporary Civilization course. This course developed the principle "that there is a certain minimum of . . . spiritual and intellectual tradition that man must experience and understand if he is to be called educated."[23] Reed college and the University of Chicago followed this effort to capture a sense of intellectual heritage. However, it should be remembered that these were isolated courses in an elective curriculum.

Still another reform was the honors program serving exceptional students, instituted at Reed and Swathmore. The honors program provided intimate faculty-student contact, attempting to decrease the impersonalization fostered by the large lecture courses.

Another manifestation of the search for a genuinely integrated approach to education was expressed by Meiklejohn in "The Unity of the Curriculum." He pointed out the relationship between the unity of the curriculum and the unity of knowledge. Unity must either be denied altogether, or it must be affirmed in such a way that curriculum and teaching methods could be organized from it. To promote unity, Meiklejohn recommended general courses for beginning college students and integrative seminars for seniors.[24]

Perhaps the most dynamic and vocal attempt at fighting the trends initiated in the later 1800's was that of Robert Hutchins at the University of Chicago in the 1930's. Hutchins was devoted to the "single-minded pursuit of the intellectual virtues,"[25] in an attempt to counter vocationalism, empiricism, and anti-intellectualism. Hutchins restored the guiding principles of Aristotelian metaphysics, with courses in classics, grammar, rhetoric, logic and mathematics. The Great Books curriculum now used at St. Johns college in Annapolis grew out of this.

A final example of this "counter-revolution" in the early 1900's is that of the progressive movement in education following the writings of Dewey. For Dewey, education involved an experience of interest to the student combined with a problem growing out of that experience. Faced with this problem, the student must devise a solution and then proceed to test the solution. Dewey's ideas inspired a number of progressive college experiments. Antioch college, founded in 1921, provides a unique mixture of the general education of the time, work experience, and social training. Black Mountain, Sarah Lawrence, and Bennington were also founded in the spirit of this movement, while Goddard and Bard Colleges were completely transformed on these principles. As Frederick Rudolf says, these institutions shared a basic belief in Dewey's emphasis "on individual programs to fit each student's needs, abilities and interest, and insistence that

each student take charge of his own education, an orientation toward contemporary society, interdisciplinary courses, and a de-emphasis of such traditional practices as grades, examinations, degree criteria and attendance requirements."[26]

Throughout this period of the early 1900's, the trends begun in the 1800's — of increased specialization of disciplines, further accent on research, increase in size of the universities, increase in graduate facilities, increase in professional orientation, increased democratization, et cetera — were still progressing. They were combined in many odd ways with the ideas of the "counter-revolution," and it often became difficult to distinguish the aims of the opposing trends. During the early 1900's the good aspects of all of these trends were accented, and, as a result, universities began striving for what in the end came to be contradictory aims. Thus, the service to society by development of professions was a cherished goal, and yet this often came into conflict with the development of a unified curriculum and a "whole man" which also was an established goal of the university. The inter-relationships of the trends became very confusing, and the changing complexion of society greatly added to the confusion.

The Second World War ended the era of rampant experimentation and founding of new schools, and provided the impetus for a new advance in the concept of general education. The divisive elements of the War and the desire for a "common learning" led to the Harvard Redbook of 1945, *General Education in a Free Society*, which explicitly sought "a unifying purpose and idea" for college education.

The Harvard report called not only for a complete curricular change at Harvard but for the formulation of an educational philosophy for the entire country. As Daniel Bell, a sociologist at Columbia, says, it "became the bible of general education, particularly in smaller colleges and state universities." It is especially significant because it brings together many of the principles which had represented aims of American education for so long and which still existed, such as freedom, practical relevance, need for general education, need for unity of knowledge, need for professional training, need for the development of whole men, etc; and did so within the framework of the modern university as it had developed with increased emphasis on research, specialization, democracy, preservation of American principles, and so on.

As can be seen, the principles of development of the university since the 1700's have followed a cycle from classical to popular to neo-classical. American universities have changed with society, in many cases to meet the demands of society. Each new stage has taken much from the one before it, making today's universities the aggregate of past trends. The present situation is confused by the fact that today's problems and goals are often stated in the diverse rhetoric of past

changes. The actual problems and principles of the university have become blurred and mixed, leading to confusion in attempts to analyze where the university is and where it should be going.

We hope that this brief discussion has helped establish a historical context which will illuminate the present condition of the American university. It has been very enlightening for us to grasp the various historical trends which have led to the creation of the present university and to the formulation of the rhetoric surrounding it. We would recommend that interested individuals do more complete reading in this area, and so we have presented a few suggestions in our bibliography.

We will now proceed to a brief discussion of the state of the current American university and some of the changes it is undergoing.

4. TRENDS OF THE MODERN UNIVERSITY

It is very hard for us to express our knowledge and feelings about the position of the university in contemporary society. Since the purpose of this section is to set a contextual background for what is to follow, we will not satisfy ourselves with a brief discussion of trends which are currently affecting the university. The trends we shall examine are both external (influences upon it from the society) and internal (developments within the universities themselves).

It has become apparent that, as Clark Kerr says, knowledge is probably the most important element in current American culture.[27] The result of this is increased attention focused upon the university, a traditional center of knowledge. In its many forms, this increased interest has had a great many influences on the pursuit, application and transfer of knowledge, and on the university, which is the focus for all of these activities.

The first current trend which affects American universities that we shall examine is the exponential growth of written material which alleges to be concerned with knowledge. Derick Prince has estimated that the total research effort in Great Britain since the time of Newton has doubled every ten to fifteen years.[28]

The expansion of the scientific journal is a major indication of this advance. The scientific journal began in 17th century England as a means of communicating new advances in science. By the beginning of the 19th century, there were a thousand, and by 1900, some ten thousand such journals. Since 1750, the number of scientific journals has increased by a factor of ten every half century. When the number of journals reached 300 in 1830, it became obvious that the cultivated man of science could no longer keep abreast of the mass of new knowledge and a new device — the abstract journal — was founded to provide short summaries of articles.

These abstract journals have increased exponentially as well. By 1950, there were 300 such abstract journals in the sciences. Not only has the number of journals increased, the size of each journal has increased also. As Bell points out, a

journal devoted to publishing the abstracts of new papers in the chemical sciences now runs to some thirteen thousand pages annually, exclusive of indexes and cross-references. Ten years ago it was only half this size.[29]

This increase is not just peculiar to the sciences. As Sanford and Katz point out, "Bulk looms particularly large in the humanities; and the social sciences are doing their best to catch up. One might guess that complete reading of all primary and secondary sources on the topic of the 19th century novel alone would in number of pages be greater than all reading in contemporary physics. This bulk is a consequence not only of the ever-increasing specialization of knowledge, but also of the conceptual omnivorousness of the present stage of our culture."[30]

The proliferation of scholarly journals is only one indication of the staggering output of sheer words today. In 1964, nearly 320,000 separate books — nearly one thousand books a day — were published throughout the world. Columbia's yearly acquisitions fill nearly two miles of bookshelves. In the single field of medicine it is estimated that some 200,000 journal articles and 10,000 monographs are published annually; in the physical and life sciences, the number of books adds up to about 60,000 annually, the number of research reports to about 100,000, and the number of articles in scientific and technical journals to about 1.2 million each year. Bell concludes this summary of staggering figures by asking the reader to consider what will happen when the new nations begin to produce in a great number of fields.[31]

We will have more to say about the fact that all of this printed matter does not really serve as knowledge. It is perhaps sufficient now to point the way in which the pursuit of knowledge is approached in American society today. It has gotten to the point where former university president Clark Kerr refers to knowledge as a commodity, and to the "production," "distribution," and "consumption" of knowledge. He says that "the production, distribution, and consumption of 'knowledge' in all its forms is said to account for twenty-nine percent of gross national product . . . and 'knowledge production' is growing at about twice the rate of the rest of the economy."[32] Realization of the fact that discussion of knowledge and education has proceeded in this direction will aid us in our further consideration of the university.

A second trend in expansion of knowledge which affects universities is the extraordinary proliferation of fields of specialization. According to the national register of science and technological personnel, there are over nine hundred distinct scientific and technical specializations in the sciences. This is compared with fifty four listed twenty years ago. In physics alone, there are eighty-one specializations, and within each of these, there are of course different men working on a variety of more specialized problems.[33] Very often there is little

communication among physicists who are not working in the same specialization, let alone with men in other disciplines. This trend in the increase and development of knowledge has greatly affected the university in many ways which we will discuss at length later.

A third trend in the acquisition and use of knowledge which affects universities is the use of technological and social scientific tools in the acquisition and processing of knowledge and its parts — in effect, the scientization of knowledge. The computer allows fast acquisition, compilation and utilization of massive amounts of data. The development of new methods for dealing with knowledge and analysis — game theory, systems theory, cybernetics, et cetera — has typified this scientization.

A fourth trend in the pursuit of knowledge in today's university is the increasing involvement of the federal government in all areas of university concern. Government supported research has come to dominate the university research picture. Government supported education and government use of university resources are greatly increasing. The old Veblenian fear of the influx of business values into the university has been largely displaced by the increasing fear of the influx of governmental values.[34] Almost 25 percent of the total money spent each year in universities comes from the federal government, and this allotment is steadily increasing. Even wealthy and independent Harvard received one quarter of its 1960 income from the federal government. Although business and foundations still may be important as donors of endowments, when it comes to construction funds and grants, the new paymaster is the federal government. Even before the federal government affected its aid to education bill, the 25% figure held for most universities.[35]

Basically, there are four ways in which the federal government has involved itself with higher education. First, in the researching, gathering, and disseminating of information by the Department of Health, Education and Welfare. Second, HEW coordinates and assists in planning for the nation's educational needs. Third, the government provides specific — and often the sole — support for government-sponsored institutions and programs. Finally, the federal government supplies financial aid, in one form or another, to autonomous students, institutions, and programs within institutions.[36]

Criticism of this government support of higher education has largely been directed not at the principles of this support or at the fact that it exists, but at the method the government employs in distributing the money, and its influence on the academic life of the university.

Federal support of the university does not emanate from one branch of government alone. It is filtered, rather, through a network of bureaus. Since World War II the American university has had some contact with virtually every

branch of the federal government. According to Daniel Bell, however, federal funding has been concentrated in one area: the physical sciences.[37]

The first federally supported program of this kind was the construction of the Los Alamos laboratory, where the atomic bomb was produced, during World War II. The laboratory was associated with the University of California which, under contract with the U.S. Army, organized and supervised the construction and maintenance of the laboratory. The army financed the whole operation, including the cost of research. After the war, the Los Alamos laboratory was placed under the jurisdiction of the Atomic Energy Commission.[38] Since the initial venture, the AEC has made several similar arrangements with other universities.[39]

Due to the tremendous cost of equipment, the AEC has become the largest patron of the physical sciences. Under such a liaison the construction of instruments such as proton accelerators becomes economically feasible: the federal government provides the money and the university provides the researchers. For example, the Cambridge Electron Accelerator — completed in 1963 at the cost of twelve million dollars and working with a five million dollar annual research budget funded by the AEC — is operated by Harvard and MIT. The title to the accelerator, however, remains with the AEC for twenty-five years; only then will it be turned over to the two universities.[40]

A second federal agency which has sought the assistance of many universities primarily for physical science research is the National Science Foundation. It is now operating three centers in cooperation with universities for their studies in astronomy, oceanography, and geology. Other more specific research projects and facilities have been financed by and are operated for different branches of the federal government. The Jet Propulsion Laboratory at the California Institute of Technology, for example, experiments with rocket propulsion for the Air Force and designs space craft for the National Aeronautics and Space Administration. The Lincoln Laboratory and MITRE (MIT Research and Engineering) at MIT are designed specifically to develop early warning systems. These are financed by the department of defense.[41]

A recent trend has shifted the emphasis of government support away from the defense-military oriented research programs and into fields such as biophysics, psychology, sociology, mental health, genetics, nutrition, and tropical medicine. In 1952, the defense department contributed 70 percent of the total federal funds for the support of academic research. In 1962 it was contributing only 24 percent. The same 24 percent, was contributed by the Department of Health, Education, and Welfare in 1962, while the atomic energy commission contributed 27 percent.[42]

In showing the shift from support of physical science, defense-oriented research grants to grants in the life sciences, Daniel Bell gives the example of the National Institute of Health. "In the twelve years from 1947 to 1959, the appropriations for the National Institute of Health rose from $8.1 million to $285 million. In 1959, NIH spent over $140 million in research grants for more than 10,000 projects in nearly 1,000 institutions. By 1965, the figures had risen to more than 15,000 grants totalling more than $538 million."[43]

Another trend in federal aid is the increase in support for area studies. This new concept in education, which combines social science disciplines, has become a prominent form of research and instruction. For example, the school of International Affairs at Columbia includes a Middle East Institute, a European Institute, and an African Institute, as well as centers which address particular problems like civil-military relations, manpower, and space law. Federally supported foreign policy institutions serve as centers for research in the social, economic, and political development of nations of the world. A number of universities are under contract with the government to train specialists in the problems of developing countries.[44]

Recently, the federal government has taken a step towards actively entering the humanities area through the NDEA and with the creation of the Humanities Foundation.

Thus, as can be seen, the federal government is very much involved with the universities, and its involvement is constantly becoming more diverse. This trend has influenced the academic freedom and autonomy of the universities.

Daniel Bell discusses the rather Alger-like success story of a scientist who, in 1940, as an assistant professor of biology, received $100 a year from his department for supplies. Twenty years later his annual research budget came to $50,000 — all supplied by outside agencies.[45] This story illustrates what has been happening to many universities. The result is usually less control of the professor's activities by the university and an increase in influence of the sponsoring agency. Government funds are "usually negotiated by the individual scholar with the particular agency and so bypass the usual review process. Thus 20 to 50 to 80 percent of a university's expenditures may be handled outside the normal channels. These funds in turn commit some of the university's own funds; they influence the assignment of space; they determine the distribution of time between teaching and research; to a large extent they establish the areas in which the university grows the fastest.[46] Almost imperceptibly a university is changed." Thus, academic policy-making by university administration is influenced.

The question of a professor's commitment to the university or to a government agency is only one aspect of the influence, however. The American Civil Liberties Union has compiled the following comprehensive list of problems

which must be confronted when considering university dealings with the federal government.

> 1. The jeopardy of institutional autonomy.
>
> 2. The introduction of security restrictions into the research of the university.
>
> 3. The sponsorship of an unbalanced program which favors the natural sciences.
>
> 4. Applied research is favored above basic research.
>
> 5. The greatest share of the funds is given to relatively few institutions, notably MIT, and Cal. Tech.
>
> 6. In parallel fashion, there are relatively few scientists who receive funds.
>
> 7. Direct grants-in-aid do not cover indirect costs of an institution incurred in its normal operation, and may, in fact, serve to exacerbate the financial strains of institutions rather than relieve them.
>
> 8. Clumsy procedural arrangements, wasteful of time and money, are used in the awarding of grants-in-aid.[47]

One result of government aid to higher education, as James Perkins of Cornell points out, is that "instruction frequently takes second priority; buildings, even when paid for by the government, involve increased operation costs; overhead returns are rarely adequate . . . ."[48] The upkeep and maintenance of the buildings, once constructed, are left to the university.

Furthermore, according to Kerr, "some faculty members tend to shift their identification and loyalty from their university to the agency in Washington."[49] Whether the professor makes this transfer or not, his relationship with outside agencies can attract more government-sponsored projects to the university, or can "lead to increasingly complex, if not disorderly, administrative relationships both within the university itself and between the university and other agencies."[50] Individual recipients of grants may attempt to influence administrators to secure

the establishment of a new administrative unit or top priority for the construction of new buildings and/or facilities.

Federal research support can also add a new point of tension within the faculty, and create a split between science and non-science factions. The scientists, for the most part, are promoted more quickly, allotted more space, paid higher incomes, and given more secretaries and assistants than the humanists. It is reasonable to assume that the non-scientists resent this favoritism and react accordingly.[51]

Certain critics have also pointed out that the governmental emphasis on research has diminished the university's concern with undergraduate education, by placing the priorities in line with money and public recognition.[52]

These negative aspects of the government-university relationship do not present a total picture of the relationship, however. First of all, the federal government is working under its own handicaps — it must account to the voters for the money it is spending. The orientation of federal money toward applied research and practical results can be understood from the desire to justify to the appropriations committees of Congress that the taxpayer's money is being well-spent.

It must be noted in any discussion of the relationship of the university to the federal government, that the government is going to be necessary if private institutions are to exist on an adequate level in the future. Without federal money, private education would not be nearly as developed as it is today. Federally financed construction has contributed immeasurably to the vastly expanding physical plants of American universities. Government-sponsored scholarships have supplied tuition costs for thousands of students. And federal grants — although emphasizing applied research — have freed individual universities from many worries about the maintenance of faculties and facilities.

We have spent a great deal of time on this subject because we feel that it is now a crucial area of concern for universities. The federal government is needed and will continue to play an ever-widening role in the universities. The potential bad trends that may result from this must be considered very carefully. As a recent NSA publication on the subject stated: “We should face squarely the question as to whether we are prepared to break with the long-established tradition which entrusts to the universities a large measure of autonomy by their proper functions of education and research — whether we are prepared to replace a significant fraction of this autonomy by a patchwork control exerted by a variety of bureaus with widely differing aims and interests. It would appear evident that a rational decision in this matter, admittedly very difficult to arrive at now, will become increasingly so with the passage of time and with the creation of new vested interests.“[53] That the federal government is becoming more

involved in the university and that the effects of this have only begun to be felt, may prove the most significant factor in the development of the university in our age.

A fifth current trend in the American university is the increased enrollment at both undergraduate and graduate institutions. Attending college — and even graduate school, as Keats points out — has become more or less the expected "thing to do" for young people. Concern with social mobility and the good job are shown in the society's attitude toward a college degree.[54] This increased enrollment — a result of the democratization and popularization of attending colleges — has had a number of influences on the university scene. More interest is focused currently on the university than ever before. The values of the culture hold that college is something "important" and "good" and "worth supporting" in the society. It is no longer valued only by the upper middle class and upper class strata of society. It is no longer set away from the society. This has caused the expansion in size of a number of institutions and the creation of many new institutions.

A result of both the increase in the student population of colleges and the increased importance of knowledge is the constant and amazing growth of the universities as a whole — typified by the development of the multiversity. The following statements by Clark Kerr accent this growth:

> The University of California last year had operating expenditures from all sources of nearly half a billion dollars, with almost another 100 million for construction; a total employment of over 40,000 people, more than IBM and in a far greater variety of endeavors; operations in over a hundred locations, counting campuses, experimental stations, agricultural and urban extension centers, and projects abroad involving more than fifty countries; nearly 10,000 courses in its catalogues; some form of contact with nearly every industry, nearly every level of government, nearly every person in its region. Vast amounts of expensive equipment were serviced and maintained. Over 4,000 babies are born in its hospitals. It is the world's largest primate colony. It will soon have 100,000 students — 30,000 of them at the graduate level; yet much less than one third of its expenditures are directly related to teaching.[55]

While the University of California is among the largest complexes in the United States, the same types of trends are occurring in smaller institutions. Brown University for example is the largest industry in Rhode Island. Education

on the college level has become a big business. As Robert Knapp has pointed out, "The management of universities, and to a lesser extent of colleges, has become a highly professionalized and businesslike affair."[56]

The increase in size has brought on a multitude of new problems. Problems of impersonality, bureaucratization and emphasis on efficiency have resulted. The increase in knowledge, the increase in interest in knowledge — and in the university as a vehicle toward it — and the increase in the desirability for young people to enter college have thus contributed to a fantastic growth in the colleges and universities in the country. Exactly what efforts will result from this is uncertain, but the symptoms of impersonalization, bureaucracy, et cetera, should not be ignored.

A sixth major trend in the American university today is the increasing involvement of the university in affairs of the community and society. Along with the traditional task of providing trained and developed people for the society, the university today is turning to the society and shedding its image of an ivory tower. Students, faculty and administrators alike are participating at varying levels in the problems of the community and society. In some cases this increasing involvement has engendered the criticism that universities are becoming too applied in their outlook and are losing their scholarly objectivity. Other people have praised this trend as important for the continued success of the university as a meaningful institution in society.

A seventh major trend in universities today is the increased involvement of the student in the decision-making process. No longer does the student body accept without question the decisions of faculty and administrators. In some cases, a breakdown in communications between students and faculty and administrators, due at least partially to the increased growth of the university, has led to a rebellion by students. Feeling no possible way to gain power within the mammoth structure of the university, many students rebel against the whole system. In general, student discontent has mounted even though students have for the most part been steadily gaining in decision-making responsibility. Accompanying this has been a change in the nature of students. It is very hard to point out the characteristics of this change, although many attempts have been made. It is clear though, that as society has changed, so have college students. We hesitate to attempt to describe the change because each individual has his own version of what the changes have been.

Another factor or trend in American higher education today is the increase of academic freedom for both students and faculty members. Knapp discusses the rise of this principle in the following:

> It is frequently assumed by younger members of the profession that in appealing to this principle [academic freedom] they are invoking an ancient and honored tradition in American higher education. Such is clearly not the case. Prior to the first world war, the idea had little currency and surely little force. . . . In the latest and most publicized crisis in academic freedom, namely the oath controversy at the University of California in 1949, the final legal decision in favor of the defendants will doubtless prove a significant precedent in the defense of this doctrine. The rise of the doctrine of academic freedom has done much to bolster a sense of security and dignity among college professors at a time when other forces have tried to restrict their freedom.[57]

For students, increased social freedom has accompanied this increased academic freedom.

These are of course only a few trends which could be noted in the American College scene. We have chosen them because we feel that they are important and that they help establish a context for the discussion which is to follow.

Before proceeding, we would like to consider a few projections which have been made about where the university is heading. They are expressed by President Perkins in his book *The University in Transition*.[58] The fears that these projections raise, we feel, must at least be considered by everyone involved in the University process today.

The first projection is that made famous by George Beadle of the University of Chicago and is referred to as the Brontosaurus projection. This refers to the continued growth of the university and the fear that size will outgrow the intellectual ability of universities to handle themselves. This theory maintains that the university, like a brontosaurus, will produce a lot of noise but very little constructive action.

A second fear is referred to as the Caretaker's Daughter projection, based on the 1920's song which went, "Who is taking care of the caretaker's daughter when the caretaker is out taking care." This refers to the fact that too often there is no wide vision of purpose understood and pursued by the various segments of the university community. Presidents are off raising money, faculty members are involved in their own studies, and students are having identity crises; no one is attempting to consider the university as a whole and project what it wishes to do and where it wishes to go.

A third fear is what Perkins terms the Kent projection, deriving from the limerick which goes:

There was a young lady from Kent
Who said that she knew what it meant
When men took her to dine
Gave her cocktails and wine
She knew what it meant — but she went.

Universities are very often led by foundation and federal money, and even though they may not be happy about where they are being led, they feel that they are not doing their jobs unless they follow the money and add to the university in whatever manner possible.

The final projection, made by Clark Kerr and mentioned by Perkins, is the Constructive Chaos projection — that often universities may be too rigid to follow trends which may in the end prove beneficial. Concern for the "integrity" of the university is often used to block needed change.

These four projections express fear of uncontrolled growth, fear of loss of direction in the university, fear of loss of principle on the part of the university, and fear of blindness in an era of rapid change. Although we feel that the pessimism expressed by these projections is only part of the picture, we do feel that the problems raised by them must be examined by members of the university community before they continue their day–to-day work. We could add other projections which are not nearly as bleak. Some point with pride to the ability of colleges to educate more people today. Some project the increase of this ability until all Americans will have the opportunity for higher education. Some project the future university as an institution which will remedy many of society's problems.

Whatever the course of the university actually turns out to be, we feel that it will be improved if more attention is paid to studying the university as an institution in society. The reading on this subject that we have done has been very valuable to us in our study of educational process and we feel it would be at least equally helpful to anyone who is concerned with any problems within the university. We hope that our brief presentation here has at least provided a context for the following discussion.

The university is performing functions that are more important than ever before. Yet — because of changes in society and changes in the nature and use of knowledge today — the university is undergoing many changes, not all planned and not all apparent. It is hard to establish a philosophy that delineates exactly what the university should be doing and how it should be doing it because of the trends we have examined. However, we do feel that each university must attempt to do this if it is to avoid encountering some of the problems pointed to in the projection by Perkins.

We propose to make such recommendations for Brown. We hope that they will be a start for fuller consideration of the problems at Brown based on more extensive study. The foregoing discussion of history and trends is designed to give us a perspective beyond Brown University. In the final analysis, however, we feel that what we recommend is applicable specifically to Brown, and we could not claim its applicability to any other institution. We feel that Brown — because of its nature, facilities, et cetera, and because of the commitment that it should have to the labels it attaches to itself (such as "university," "liberal arts institution," et cetera) — is suited to the suggestions that we shall make. If a fuller context is desired, the attached bibliography will provide for discussion of the problems on a wider and higher plane.

5. RESEARCH AT THE UNIVERSITY

In this section, we will briefly discuss some of the purposes and aims that we feel the University should pursue and some ideas on how this pursuit should be undertaken.

As we are speaking in general terms about the university it should be kept in mind that the word or category 'university' is like the word 'species' — it embraces a wide variety of types of institutions.[59] Thus, our generalizations about the university movement should be taken as just that: generalizations. Furthermore, the university is a process or an organism in that it is constantly changing and moving in various directions.[60] The background which we have established as to what the university has been and is in today's society should be remembered during this discussion.

For the purposes of this paper, we will differentiate three purposes which we feel the university should have. They are not all-inclusive, and it would be possible to organize and group purposes for the university in different ways and under different categories. We have found these useful. We should note at the outset that these three purposes are all interrelated and that making divisions distorts the true picture as we see it; yet we feel that it is necessary for purposes of presentation. We will attempt to demonstrate the interrelations throughout the section.

The three purposes that we see for the university today are the acquisition of knowledge, the service to the society and the community, and the education of youth. Ideally, these purposes must be pursued in such a way that they all support each other — or at least so that the pursuit of one damages the pursuit of the others as little as possible. In describing functions along these lines, Perkins makes a point that ruin can result if one function starts to outweigh the others. He points to the old English universities, which he says failed because they emphasized education over their other functions, and the old German universities, which failed because they emphasized research to the detriment of the other two functions.[61] We will begin with a discussion of the acquisition of

knowledge on a theoretical level and we will attempt to deal with the other purposes on this same level. Because of the limited scope of this paper, we will focus on the educative function of the university; the acquisition of knowledge and the community service functions will be dealt with superficially.

In discussing the acquisition of knowledge as a function of the university, we must first present some idea of what we regard as the acquisition of knowledge. The acquisition of knowledge as we will discuss it refers to that process to which we give the title 'research'. The procedures may be as diverse as experimentation, reading, the gathering of data for the construction of a theory, or the creation or interpretation of works of art, music or literature. To fall under the term of acquisition of knowledge as we define it, these procedures must take place under certain conditions.

The knowledge produced by these procedures may or may not be of benefit to the individual, the university or the society; the process which constitutes the acquisition of knowledge, if it is performed under these conditions, will be. What we will now attempt to do is to show the value of the acquisition of knowledge, and some of the conditions which are necessary if problems are to be avoided and values realized.

There are a number of reasons why we feel that this act of acquiring knowledge or 'research' is a valuable function for a university. First, we are making the general assumption that a society which has as a part of its activities the seeking of knowledge by a segment of its population is a better society than one that does not. Thus society should support this type of activity because its presence in the society can have a beneficial effect, uplifting the level of the society. Second, we feel that it can be of great value to individuals to be engaged in this acquisition of knowledge. It is interesting, enjoyable, and fulfilling for many people who choose it as a profession as well as for others.

Thus, a society which maintains this type of activity will benefit from its mere presence if the activity is carried on well, and individuals will benefit from participating in it. Because the university is an institution which is particularly well suited for this activity, we feel that it should support it.

Assuming that education is a legitimate function of universities, it can be effectively argued that research — or the acquisition of knowledge — can greatly aid this education function. As Mountford says, "within a university context there is no opposition between teaching and research; the two interact upon one another. Teaching that is confined merely to the handing on of what is known or deemed to be known, in the long run, becomes pedantic and lifeless; that was notoriously the fate of the medieval scholasticism. But when a teacher is himself engaged on work at the frontiers of knowledge and thought, the quality of all his teachings is subtly vivified."[62]

Whitehead presents the following arguments: "Do you want your teachers to be imaginative? Then bring them into intellectual sympathy with the young at the most eager, imaginative period of life, when intellects are just entering upon their natural disciplines. . . . Knowledge does not keep any better than fish. You may be dealing with knowledge of the old species, with some old truth, but somehow it must come to the students as it were, just drawn out of the sea and with the freshness of immediate importance."[63]

Thus, Whitehead feels that a professor who is involved in research can make knowledge seem alive to his students — its being alive is an essential part of a good education. A further argument for the beneficial effect of research on education is that very often the best education which can take place occurs when a student observes and works with a professor who is doing research. Observing methods of inquiry, attitudes, et cetera, which the professor uses can provide a very keen understanding of the work of a discipline or of the nature of intellectual inquiry.

A final value research has for education in the university is that the very presence of the great number of facilities necessary for research at a university — from extensive libraries to vast amounts of equipment — and the atmosphere created by people doing research, can often be conducive to education as we will define it later. We must also add that all of these benefits hinge on the nature of the research going on, as well as on the nature of the education.

Other advantages of the acquisition and seeking of knowledge are those which directly benefit the society and community. First, much of the knowledge acquired in universities has been beneficial to the society — medical and technological advances, for example. Although values differ from person to person, almost anyone can view the acquisition of new knowledge as good, at least in part. Second, on a smaller scale, research has often met the needs of the country and of certain interest groups in the society. We further believe that the function of preserving the knowledge and culture of the past, interpreting it for the present and making it available when society needs or desires it is a valuable function and one which the university through its research function is able to carry out. Individual professors or members of the university community who serve in advisory capacities outside of the university are better able to do so if they are constantly studying and exploring in their fields. Finally, it should be remembered that it is not only the result of research which may affect the society. The very methods of acquiring knowledge can affect the mental outlook of society. The values and procedures of men doing research have often become part of the intellectual climate of opinion and in this way have had enormous impact on the society.

We have not attempted to describe the values which may be gained from having the acquisition of knowledge as a purpose of the university. As we have previously stated, however, certain conditions must exist if the process which comprises research is to achieve these values. Because of the limited scope of this section, we will limit our discussion to general conditions which often prevent the achievement of these values, and which therefore negate this as a purpose of the university.

We will begin this task by discussing a few interrelated factors that have tended to harm research and which center around the pressure to publish. Irving Howe has said that in the first few years at a school, the young professor knows that "he will be judged mainly for his 'production' — that is, for his scholarly writing and research."[64] This places great strains on many professors which can not only harm them as teachers but as researchers also. Even when the situation of "publish or perish" does not exist, it has been pointed out by Clark Kerr, among others, that promotion is made easier if one has published material to support him.[65] These pressures and related pressures can have some negative effects on research.

The argument that research helps a professor remain dynamic and keeps him active on the frontiers of knowledge of his discipline becomes greatly perverted when pressures are placed on him to publish his research. Thus, research that is forced at perhaps too rapid a pace of with emphasis on published results could possibly diminish the dynamism and development of the individual professor — the goal of this development could best be realized if the professor were free to set his own deadlines and pursue the research in his own manner. Research done out of necessity or fear seems inconsistent with the values of research for the individual professors as we have described them.

A second problem can best be described vulgarly by saying that there is an ever-increasing amount of "junk" being published. Although it is impossible to establish universally valid standards for determining what junk is, the descriptions by Hutchins of the accumulation of data in a random manner[66] and a casual glance at much of the material we have read in educational journals convince us that junk research material is profuse.

In many cases, while this work we call junk might be very valuable to the individual researcher and writer, he should not — because of a feeling of having to publish — be pushed into revealing it in a public form to a world which already has more printed matter than it can handle. Within the definition of research that we have been providing, a professor who had an interest in a particular area could do research in that area for a year. He could read primary material, read what other scholars within and outside of his discipline have said on the subject and related subjects. At the end of the year of study, it would seem

conceivable that in coming to some conclusions about the area of study, the professor could find in all honesty that he has nothing really new to add to that particular area. He certainly could have pursued the research well and have gained a great deal himself, and yet still not have come up with anything original or significant enough to warrant his attempting to communicate it to others through print. Because of the pressure to publish, many professors in this type of situation would find themselves compelled to write and publish something which, because it has nothing new to communicate, could perhaps be considered in the category of what we are calling "junk". Basically, therefore, we assume that it would be less likely that a lot of "junk" would be published were it not for external pressure for publication.

Another dimension of this problem is the effect of the pressure on the actual published work itself. As Juan Lopez-Morillas states, "If some universities misrepresent the nature of a humanistic education, they are only pursuing with cold efficiency the example set by the 'quantitative scholars' themselves. In the more pedestrian institutions, concern with humanistic scholarship is confined to counting the items on the instructor's record of publications; the more items, the better. The result of this intense pressure to publish for the sake of advancement has been that much of what comes out in the professional journals is banal, meaningless, or irrelevant, for nothing that requires sensitivity and imagination can be produced under pressure."[67]

An even greater problem related to this, and one which might further elucidate the dangers of the increase in published junk, is the pressure for originality and significance of research. One possible result of this is that a professor in his desire to add something significant to the field, might create an original statement or approach even though he did not particularly believe that it were valid. It is not hard to make a good case for interpretations even though one may not really believe them, and sometimes, in terms of recognition, it is valuable to do so. This type of "falsification" is especially prevalent outside of the experimental realm where verification and replication are difficult, but it is also true for the empirical sciences. Cases of misuse of data are not rare.

It is of course more pleasing when research produces results which are significant. However, by forcing significance on the basis of dubious evidence, the whole concept of research with its positive values is often distorted. Emphasis is taken off the benefits for the individual researcher, for the university and for the society, while the whole process tends to become an exercise in verbiage and deception. To provide one related example: in how many cases has the quest for originality caused the researching of obscure subjects as an end? How often is the phrase "nobody has done it before" the key phrase in the description and justification of research, and, how often does this obscure research turn up results

which only reinforce the obscureness of the topic? While it may be valuable for an individual to pursue an interest which seems obscure to others, to have the obscurity be an end in itself is damaging, and to have to show the significance of the obscure topic at the end of one's search, when no such significance exists, can foster dishonesty.

The following statement by Professor Juan Lopez-Morillas provides the most recent illustration of this point. Although he is referring to a special case within the humanities, his points about the search for originality and accompanying harms is relevant here:

> In their enthusiasm for the purely quantitative, for the insignificant fact and the picayune detail, for the mere accumulation of data, many contemporary scholars in the humanities could serve as an example of Buffon's aphorism: 'genius is only an ability to be patient', the kind of patience which permits them to do filigree work in erudition and to pursue relentlessly that item which, being the most inconspicuous, offers, if captured, the greatest promise of originality. Hence their drive to concentrate on what is infinitesimal in human experience, to magnify through the microscope of their erudition the minute particles of information hidden in the crevices and corrugations of the tree of knowledge. This sort of dehumanized labor has already produced a colossal pyramid of books, monographs and articles and notes on absolutely inconsequential matters. The forgotten historical name, the trivial bibliographical item, the obscure statement, reference or allusion, are treated with sacred reverence and made to circulate among the subscribers of some learned journal. It could be suggested that if such items are forgotten it is perhaps because they deserve to be forgotten and will likely continue to be forgotten even if a scholar's attention is fixed upon them. To discover, edit and publish a manuscript does not necessarily mean to bring it back to life; it may simply mean to transfer it from a potter's field to a mausoleum.

We feel that the implications of this statement extend into the realm of our discussion. The search by professors for obscure topics which will insure the originality of their research is not always within the spirit of the acquisition of knowledge as we feel it should take place at a university, particularly if the values that we have discussed are to be emphasized.

A few questions have been raised by the previous comments. First is the question of whether research can be evaluated without publication. A negative answer to this question is sometimes used to justify the pressure to publish. Yet the pressure to publish, combined with the omnivorous appetites of the new journals, effectively cancels out the value of publication as evidence of the quality of the work.

Even examination of the published work may not give an accurate impression of the research itself. As Stephen Orgel and Alex Swerdling point out, "Since the actual process of research implies not simply writing, but reading, collecting data, thinking, teaching, talking — in fact, the whole of intellectual life — to judge a man simply by his published work is to be concerned only with the results, again with knowledge as a product, not learning as a process. A published work is merely a temporary stopping point and represents only a part of the larger research process — and not necessarily the part which is most important for the teacher, his student, or indeed the university as a vital community."[68]

Another question is raised by the following statement by Paul Weiss: "This pressure for mediocre research output, growing in proportion to the abundance of research grants, is doubly pernicious, because not only does it add to the glut on inconsequential data; what is worse, it places resourcefulness and excellence in teaching, by implication into a rank of inferiority."[69] This clearly raises the issue of whether the pressure to publish is detrimental to the educational function. As Weiss has pointed out, the emphasis on research may mean the relegation of teaching to an inferior position — something which would effectively hamper the educational function. This is especially true if a professor's published material, rather than his teaching ability, is the preponderant factor in evaluation of him. Christian Bay feels that this is often the case and it is harming education. He says that "in the better colleges and universities, they [young professors] are given to understand that their promotion prospects depend almost entirely on the quantity or quality of their published research and other academic works. Most young professors are in effect told to publish or perish, and they by and large choose to publish at the expense of time and effort invested in teaching, in preference to becoming first-rate teachers who will perish for lack of published output, or at any rate will be relegated to less prestigious and lower paying colleges."[70]

Other problems also arise. For example, if the search for originality is always at the center of the research done by professors at an institution, then the same demand may be placed on the students, who are expected to be "original" in a trivial way, if necessary, instead of spending time in less esoteric pursuits which would be of more value to them. Further, when research is done dishonestly or self-seekingly, proper education by example cannot take place. Finally, when the

pressure to publish puts the emphasis on what is produced and not on the effect of doing research, the vitality of the "exploring on the frontiers of knowledge" that Whitehead describes is lost for both the researcher and the students.

A third question arises as to whether these harmful pressures on research would hinder the values which research can have for society. We feel that they can. The production of junk and the obsessive search for originality do little good, and may positively harm the intellectual climate of opinion of the society which the methods of research can benefit. Indirectly, the bad effects which these aspects of present day research manifest may harm society through a corruption of the educational function of the university. We further feel that significant research should still be published without any such pressures. The society therefore would continue to derive the benefits of research which it does now.

Thus, we feel that while universities might encourage their professors to do research, they should not compel them to publish. All of the aspects of this problem that we have discussed can prevent the acquisition of knowledge as we have described it from bringing enjoyment and benefit to anyone.

A second problem with research which must be considered is the question of the relationship between the researchers at the university and those who finance and utilize their results. The seeking of knowledge in the universities often aids the society in direct ways. Yet, this aid can be distorted when research is compelled to produce immediate practical results and is not free to pursue its own course.

One of the most common forms of the problem is the demand for practical results often made by those who support university research — especially in the sciences. The problem of this demand for immediate practical results is maximized, as Pusey points out, by the fact that most of the money coming into the universities for research is earmarked for and equated with immediate practical use which can come from the research. In the long run, as Pusey emphasizes, this is harmful, not only to the ideals of research, but to the greatest eventual practical results as well.[71] Too often, practical (as opposed to pure) research is so limited in its scope that it does not permit the freedom which could make the difference between a truly important discovery and one that is not.

Paul Weiss describes certain types of grants offered by foundations and businesses for research. Most of these set specific guidelines to ensure practical success and have built-in safeguards to ensure that useful results will come from the research.[72]

According to Weiss, "their source lies in the bankruptcy of trust and in the widespread lack of comprehension of the nature and workings of scientific process, for which the accounting system of industry and commerce is utterly unfit. Unless universities, as the last bastions of 'free enterprise' in science, take a

resolute stand in this matter, the efficiency coefficient of scientific research will decline further."[73] Weiss continues, "of course, only those who do not know scientific history, or have never made an original contribution to scientific progress, can harbor the illusion that scientific discoveries can be made to order by commission and in proportion to investor funds. Those who would want to label each dollar of public funds invested in research by isotopes and trace it through a clearly identifiable and tangible product would be disillusioned to learn that the less the identifiable input they recover, the more the progress of science may have been furthered." Weiss concludes his discussion of this problem by saying, "the motto for scientific research in the university should become again to turn out scientific personalities and not scientific products."[74]

Frank Pinner gives an example which can be used to illustrate the point made by Weiss about the term "usefulness." He says, "Was the invention of the Riemann space a service? I will not even refer to the use which an Einstein was able to make of Riemann's conceptualizations and to the consequent developments in physical sciences and technology. Riemann knew nothing of this, nor did his contemporaries. Yet who will say that the discovery of alternatives to Euclidean geometry was not a service, since few recognize it as such; whereas the development of model city ordinances — because clearly demanded — is a service? Riemann's conceptions have helped to increase vastly the range of human intelligence. To be sure, not everyone knows about them. But because of them the community can count among its active members, men whose understanding of mathematical and physical phenomena has been greatly increased. Is this not a service?"[75]

Thus, Riemann's discoveries, while having no immediate practical results, opened the door to practical results which could have not been possible without them. The pure advancement of science in this case eventually resulted in practical value. Even if this had not been so, however, the effect of this intellectual feat would in itself have been beneficial to society in the intellectual ways that we have described earlier.

A special aspect of this demand for immediate practical results is that of the federal government and research in the universities. Very often grants are given by the government for which practical results are demanded. Since, as we have shown earlier, the federal government is one of the largest supporters of university research, we feel that this area deserves special attention. In the future, the federal government will increasingly be the most important supporter of research, and we feel that some solution to its demand for practical results in return for its money must be found. We found it relevant to study briefly the British system of support to universities. In theory, if not in practice, this system bears examination. The autonomy of the British educational system is more well-

defined than that of the United States, even though the British government plays a proportionally larger role in giving financial aid to the universities. This is due to the fact that the agency in charge of the dispensation of funds (The University Grants Committee) employs a system of "block grants", which enables a particular university to redistribute funds, allocated by the UGC for the purpose of strengthening a particular department or curriculum, to another area which the university wishes to develop.[76]

Without going into the details of the quinquennial system and the specific procedures which are involved, it is evident that funds donated by the British government are, once received, under far greater control by the universities than funds allocated to American universities by various agencies of the United States government. Funds from the latter are usually earmarked for specific purposes and, once allocated, are rigidly supervised by the granting agency. The British system is much more loosely structured than the American one, following the philosophy that "the more the universities are subservient to whatever government happens to be in power, the less certain is it that the cause of truth and sound learning will be preserved."[77] The American temperament and philosophy require specific directions and answers when funds are provided for university research, and do not thoroughly consider the dangers involved.

In addition to expecting specific returns from its financial grants for research, the federal government has tended to limit the allocation of funds primarily to three centers of education: the New England area, California, and the Chicago area, and more specifically to Cal Tech.-Stanford, Harvard-MIT, and the University of Chicago. This has excluded many smaller universities and has created greater competition among the "name" universities for funds and the growth and prestige which come with the funds.[78]

The use of universities as centers for research was begun, not by government, but by industry. Gradually, business values were super-imposed on the university structure; it was not until World War II and after that government values supplanted these. As business established its own research centers, separate from educational institutions, the government began funding research projects, using university facilities and faculty in much the same manner as business had done formerly, but on a much larger scale. If the federal government would establish federal research centers similar to those developed by industry, many of the pressures resulting from increasing federal involvement in the realm of the university might be alleviated. These centers could even be established near universities. They would permit the government to supervise practical and specific research projects without jeopardizing the autonomy of the universities or impinging upon their academic freedom. At the same time, the government could contribute its financial support of long-term, autonomously controlled pure

research carried out within the universities. These mutually exclusive systems of federal support would have several clear advantages. First, those professors interested in teaching would not be pressured into research while on campus, and they could easily accommodate themselves to a better balanced academic life of teaching and research. If they desired, they could leave the university for a year, and work full time in one of the government research centers. Second, university research would be free from federal 'guidance'. Third, the federal government would be able to direct its own research centers along the lines necessary to resolve specific, public-oriented programs, while at the same time the university would be able to educate students without the danger of federal values infusing the educational system. Finally, there would be less danger of federal money leading the university into involvements to which it was not previously committed, as described in the Kent projection.

We have not fully worked out the implications of such an idea, and we recognize that many objections that we have not considered may be raised, but we feel that perhaps it would help keep government-supported research consonant with the acquisition-of-knowledge purposes of the university.

Returning to the central problem then, by making immediate practical results the basis for the financing of research at the university, the purity necessary for the proper performance of the function will be distorted.

A question related to the demand for specific and practical results is that of support for humanities and social science research. Because of the feeling that research in these areas will have no immediate practical value, we feel that these areas have suffered from lack of support, when, according to the values of acquisition of knowledge as we have stated them, research in these fields is as important as research in the sciences.

These pressures create many problems for the researcher and for the university, as we have tried to show. President Pusey of Harvard has made the following observation: "It is of the greatest importance that he [the researcher] know — have the unequivocal assurance — that whatever he finds and reports, within the limits of his own knowledge and skill, will not penalize him as a man."[79] It is our belief that a professor must be able to pursue his research in a free manner, free from repercussions, no matter what his findings. In this way only can the benefits of research, which we have attempted to describe, be preserved. Any pressures which might interfere with this free acquisition of knowledge must come from the researchers themselves.

Whether the acquisition of knowledge is actually taking place in the way that we feel it should be at the university, involves the specific objectives toward which a university should be striving in engaging in research. Pusey gives an opinion which we believe is sound in the following example and commentary:

"The other day, a Boston newspaper carried a story headed 'Chemists test 40,000 compounds yearly to find a cure for cancer.' Here is a clear indication of what research in a university is not. Its aim is not to find something which will work in solving a practical problem. . . . Its aim is rather to seek everlastingly for fundamental explanations, to keep working at basic levels until men are able to understand fully and deeply the processes of nature."[80] The important point here is that although it is certainly valuable for those cancer tests to be made, they could just as easily be made by people with different orientations than members of the university community; and that universities with their peculiar and impressive talents in the area of intellectual exploration, on more than just an Edison-type level, should not be carrying on such mechanical research.

A final problem in the acquisition of knowledge is that of the increasing specialization in research, as a result of the increasingly specialized nature of knowledge. Very often the researcher — even when dealing with meaningful problems — has found himself dealing with extremely specialized areas of knowledge foreign in many ways even to other members of his own discipline. This problem arises when each individual specialist becomes so lost in the jargon of his own specialty that he loses his identity as part of the world which contains other approaches to knowledge and other modes of thought. As Ortega Y Gasset describes the problem: "[The] new barbarian is above all the professional man, more learned than ever before, but at the same time more uncultured."[81] The resulting communications problem is described by Kerr in terms of the lack of meaningful discussion in the faculty clubs,[82] and by David Riesman when he mourns the lack of communication between members of different disciplines and even members of the same discipline working in different areas.[83]

This becomes an even greater problem when the researcher ignores the implications of his work for more central human problems and problems of other disciplines, when he ignores the value of other areas of study, or when he loses sight of the broader questions of concern to man and buries himself in his own specialized world. This over-specialization also often prevents any value that research can have for education. Very specialized work which does not look outward often is not the type of exploration in the frontiers of knowledge which can aid students in their development. And this type of research also limits the benefit that can be derived for society. This is not to say that specialization is all bad, but rather that researchers in specific disciplines should be careful lest they become so overspecialized that they end up in complete isolation.

The whole subject of the acquisition of knowledge in the university and the conditions under which it should take place is a complex one. To treat it further would require additional study, and is at this time, beyond the scope of this paper. We hope, however, that we have made clear our feelings of its significance

as a function of the university, and of the importance of its being properly carried out. We also hope that further discussion of the acquisition of knowledge in the university will take place in order to improve it as it occurs at Brown.

We will now proceed to a brief discussion of the second function of the university.

6. UNIVERSITY AND SERVICE TO SOCIETY

The second purpose that we have described for the contemporary university is that of service to the society that supports it. This function can be considered on two levels: first, service to the society as a whole; second, service to the particular community which surrounds the university and has the most direct contact with it. This function is based on the assumption that the university as an institution of society has a responsibility to serve the society. The university can discharge this responsibility either by performing services as an institution, or when individuals or groups within the university perform services in ways that they see fit.

The definition of the word "service" presents a problem. Whether some particular act or activity is serving the society or is harming it is often a question open for debate. What we will define as service is based on the relationship between the university and society. Service is composed of the actions or inactions of the university which are designed to benefit society. Service could involve considerations of inaction if it is deemed that the university, by maintaining autonomy and distance, will better serve the society in the long run; or it could involve working to alter the society if changes are felt to be beneficial. It is the basic aim of attempting to benefit society that is important. A better idea of what we mean by service and what conditions it should operate under should come from the following discussion.

The most obvious way that the university as an institution serves society is through the education of the young. Implicit in this is that if individuals are benefited, the society as a whole is benefited, because society is made up of individuals. Exactly what this educational process should involve, we will discuss later, but we are assuming that whatever an individual will be exposed to during those years at a university will, in general, benefit him and thus benefit society.

The university as an institution also serves society as a result of the acquisition of knowledge which takes place in research. As already stated, we feel that the very fact that the acquisition of knowledge is taking place, in the proper ways, benefits a society. Also, the actual knowledge itself often aids society

technologically, culturally, morally, and socially. Related to this is the fact that many individual members of the university community serve as advisors and consultants for government, business, and other elements of society. University experts in foreign affairs, economics, sociology, psychology, not to mention scientific and technical experts, are often used in this capacity, and are better able to serve due to their research.

A third way in which the university as an institution does and should serve society is in maintaining, and making available, past and present cultures. Moreover, as transmitters of culture, observers of present culture, and delvers into the various ways of dealing with phenomena and knowledge, individual members of university communities should be able to study society with the aim of improving it. As Dewey said, one of the functions of the university is that of critic of the established order.[84] The university, which stands in one sense apart from society and in another sense in the middle of society, provides an excellent place for the study of society and initiation of change. This is not to say that there should be a meeting of university presidents each year to recommend changes in society, but rather that at the university, the various members of the student body, faculty and administration should address themselves to this task.

There are undoubtedly a number of other ways in which the universities as institutions, or as groups within the institution, serve society in general — some direct and intentional, and others not. Some of our readings have revealed such diverse methods as helping the country's economy by relieving the labor market (students in school for four years are not on the market competing for jobs), to cases where university-run institutes have been set up to meet government needs for research, to providing a measuring stick for social mobility in the society, to providing an initiation rite of the young into society, et cetera.

While we do not agree with all of those mentioned, we feel that there are many ways in which the university can serve the society as a whole, but we feel that certain important characteristics of the relationship should be discussed and dealt with if the service is to be effective.

First, if the university as an institution is to be able to serve society well, it must maintain a certain degree of independence from the society. A difficulty arises here, because almost all of the money that is given to both private and public institutions comes from outside of the university. Too often, money is contingent on restrictions of policy and the university must deal either with this pressure or with the peril of non-support. If the university must alter its policies according to the wishes of donors, and if it must alter the way in which it will serve society with the wishes of interest groups within the society, then it loses its effectiveness.

Examples of the way in which outside pressure may hinder the service of the university in the area of research were given in our discussion of the demand for practical results from research. Similar demands for practical results from "liberal education" may hinder the benefits for society which would be provided by the educational function of the university. As former President Griswold of Yale has pointed out, often people outside of the academic community complain that liberal education does not teach anything useful and is therefore a waste of time. As Griswold says in exposing this fallacy: "When people speak of a liberal education as not being practical, they are often being very short-sighted. . . . What in the last analysis does practical mean? Does it mean expedient? Or does it mean that which accomplishes a given aim most fully and perfectly? I think it means the latter and I hold by this meaning that it calls for a great awakening" of liberal education.[85] Griswold notes that donors, who are outside of the university community, often do not realize this and impose their own ideas of practicality on university education. This is only one example.

The important point is that the university and the members of the university community must have autonomy in considering how they feel the society can best be served by the university. This is not to say that they should make their determinations apart from the society, but rather that while they should be influenced by elements of the society, they should not be pressured or forced. As President Pusey points out, quoting Robert Ulich, "only a slave adjusts to every situation; a free man knows when to say yes and no."[86] Only by maintaining the ability to say 'no' can they best serve society.

Second, the university as an institution can serve society best only if it allows itself to remain intact as a university. If the university over-extends its own commitment to serve society to the detriment of the other functions of the university then it is our belief that it will in the long run not benefit but hurt the society. Universities which practice programs of social reform or espouse positions on controversial questions can hurt their service to society in the long run if they ignore questions of education and research and allow those other two functions to go downhill for the sake of the first activities. In the same sense, the student or faculty member who becomes so concerned with the problems of a slum area as to completely ignore his academic work at the university is, in the long run, not really serving the society. (While there may be isolated cases where the activity being performed is so important to the individual or the society as to merit this, we do not feel that this will be a rule). He should perhaps take time off from the university to pursue these other interests, but by degrading the other functions of the university, he is taking away from other important values that the university can provide for society. Too often an attempt is made to convert the university into a tool for righting social wrongs in the society. It is our belief that

this type of approach sacrifices greater long range service for immediate service of lesser importance.

On the second level, service to the surrounding community, a number of examples can be noted as to how this is and should be pursued. First, the university can serve as a cultural center for the community. Members of the university often bring entertainers, lecturers, and so forth to campus, and they usually support their own theatrical, musical and artistic groups. The university can serve as an intellectual center for the community where political forums, seminars, speeches, et cetera, can take place for the outside community as well as for the university community. The faculty members of the university, the library, and other facilities also act as resources for the community. University extension courses are another way that universities aid the surrounding area.

One final example of ways in which universities can aid the community is when the members of the institution take an interest and an active part in helping to solve the problems of the surrounding area. Universities may well have the most important concentrations of expertise about planning, public health, cultural services, engineering, and the like that are reasonably available in the community. Through tutorial programs, Brown Youth Guidance, Campus Action Council, and other such activities, students can greatly aid the surrounding area. Members of the faculty and administration can often aid the community with its problems, by helping to advise local officials — as many members of the Brown faculty do in one capacity or another, and as President Heffner did in the recent school dispute. This participation in the real world can have the same vitalizing effect on members of the university community that the proper pursuance of research can have. Thus the university as well as the community benefit.

Because of the close proximity of the university to the surrounding community, it is often hard for a good relationship to be maintained. Members of the community should learn to appreciate the value that the university can have for the community and the importance of allowing the university to maintain its autonomy, and the members of the university should recognize their responsibilities to the community.

The university also benefits from its involvement in the society. The educational function of the university can be greatly aided if the university actively fulfills its service to the society and the community. The university's education should deal with the real world, and often the educational process can be served by having students work in the surrounding community and take an active concern in the society around them. The research function is also served by the availability of the real world for study. The university which ignores the society around it will not be able to provide as real and vital an education as it should and much of its research will not be as vital as it could be.

This function of the university obviously deserves a great deal more attention than we have been able to give it. We hope that other members of the university community will follow up on this area with further study and careful construction of structures which will carry out this purpose of the university in a better way than is now being done. There has been a trend towards focusing on this area in recent years, but not enough thought has been given to it, nor enough effort made to realize the values which this area holds for both the university and the society.

7. EXAMPLES OF PHILOSOPHIES OF EDUCATION

Our comments on the first two functions of the university have been necessarily brief. We will not refer back to these other functions except in so far as they are affected by or affect the educative function of the university, which is our principl concern. We will now proceed to discuss the education function — again, as we did the other two functions, on an ideal level. Then, before we move into more specific discussion of educational structures, we will make some concluding comments on the interrelationships of the three functions.

The initial problem which arises in attempting to discuss education is the lack of a clear, standard definition. In the interests of clarity and time, we will attempt to arrive at a definition for use in discussion of the educative function. John Dewey posed the definition that any experience can be equated with education so long as it does not have the effect of arresting or distorting the growth of further experience.[87] This definition, however, is clearly too general to be helpful in our discussion. A distinction presented by Maritain is useful. He postulated three separate uses of the word "education." The first is any experience by which man is led toward fulfillment or is shaped. The second use is the task of formation of the young which is intentionally taken upon by adults. The third is the special task taken on by schools and universities.[88] It is the final usage with which we shall be concerned.

The statement that education is a task which should be undertaken by universities involves a number of assumptions. One is that education can be carried on in some sort of systematically planned way. Another is that John Dewey's solitary criterion, that experiences which are intended to be educational shall not inhibit other experience, is not the only criterion for determining what these experiences should be. Rather it is our belief that there are some experiences which are more desirable, from an educational point of view, for people to have than other experiences.

Therefore, education, as we will use it, is the structuring of environments to provide experiences which are thought to be valuable for the people in the

university community. As we have stated before, we firmly believe that this is a valuable function of the university. The next section of this work will try to build a philosophy of education through a summation of the functions of education. Therefore we cannot show here exactly what education should do, or why it is valuable for both the individual and for society. However, this entire work is based on these two assumptions: 1) that there may be something valuable enough in the years that a student spends at a university to make his attendance worthwhile; 2) that the attempt by schools and universities to provide valuable experiences can succeed, even given the realities of human condition and American society.

We have avoided the historical, sociological, anthropological, et cetera, reasons for the existence of the educational systems, for these can be argued endlessly. Moreover, each individual set of these purposes brings the limitations of the respective discipline — limits that too often color the entire discussion of education.

At the outset, we should remember that any discussion of education and especially any dealing with the philosophy of education, falls prey to the problems raised in the opening section of this work. Hopefully these hazards can be kept in mind and avoided.

Before we begin our discussion of the philosophy of education it might be useful to define a philosophy of education. A philosophy of education as used here will be a compilation of goals and aims of education put forth in a systematic, coherent manner. Goals and aims are only particular parts of this philosophy, and the random presentation of goals or aims should not be confused with the presentation of a philosophy.

One way to introduce the subject of philosophies of education is to consider a few representative examples of the more than eighty statements of educational purpose put forth as aims and goals of education that we have come across. Of the many statements of goals and aims which we have found, most fit into a few broad general categories. We have rarely found a carefully detailed philosophy worked out and then implemented. In most cases, aims are listed in one or two broad sentences or in several sentences with a number of important major points. In only a few cases has an attempt been made to explain exactly what is meant by the goals or aims.

A first group of statements focuses on knowledge as the center of education. Thus, for Clark Kent and others, the predominant function of education is the transmission of knowledge from one generation to the next.[89] It follows from this that all the academic structures of the university are instituted to transmit knowledge, and are functioning well if this transmission is taking place. A related group of statements sees the seeking of knowledge as the purpose of education.

The scope of education is therefore widened in this view as all members of the university community are engaged in a grand quest for knowledge — professors in their research and discussion with faculty members and students, and students in their classes and libraries. Perhaps the most high-minded of these related statements about education are the ones which seek to define the purposes of the university as the transmittal of not knowledge in general, but of the central culture of a civilization. Ortega Y. Gasset remains the foremost exponent of this idea, and explains what he means by culture as the vital ideas of a particular time.[90]

Another set of statements centers around the concepts of wisdom and truth, and not knowledge or culture. These philosophies view education as "the pursuit of truth." One achieves "wisdom," the goal of education, through this "pursuit of truth."

A third group of statements deals with the molding of individuals, with each statement adopting different characteristics which they wish students to develop. Fundamental to almost all of these statements is the fact that unless one knows what a "good" man is, and therefore the kind of man toward which education should seek to shape students, the statement is aimless. Thus, Maritain says that the purpose of education is "to guide man in the evolving dynamism through which he shapes himself as a human person armed with knowledge, strength of judgment, and moral virtues — while at the same time conveying to him the spiritual heritage of the nation and the civilization in which he is involved, and preserving in this way, the century old achievements of generations."[91]

Here, one achieves the transmission of culture through the development of spiritual and moral individuals. To men, like Maritain, often religiously oriented, the transmission of knowledge is not enough, because this is useless if the man who receives the knowledge has not been developed morally and spiritually. The aims behind the old Classical curriculum were of this type.

Related to these statements are those which move away from theological or metaphysical guidelines to the development of free men, or courageous men, or independent men, or democratic men, or to the creation of the liberal man or the whole man. To the formulators of these statements, the theological or metaphysical guidelines, while pertinent in the church, do not necessarily bring out those traits which are needed for life in our society. It is pointed out that men must be independent in their judgments and free of prejudices to face the enormous responsibilities of a democratic society, and thus the university should help to develop men with such characteristics. The types of traits seen as desirable here also vary widely from person to person.

A third type of statement related to this central idea of the development of individuals maintains that it cannot specify character traits which should be

developed by education. In place of this, the purpose of education becomes the development of individuals to their fullest capacities. Some see this in terms of academic achievement or in the independence of man; others, as Griswold shows in one of the more developed statements of this type, believe the purpose of education is "to expand to the limit the individual's capacity and desire for self improvement, for seeking and finding enjoyment and meaning in everything that he does."[92]

In one of the most complex of these statements, Mountford describes the function of undergraduate education: "The purpose of education is to provide the student with a body of positive knowledge which enhances his store of learning and in part equips him for a career in later life. Even more important, it inculcates in the student an attitude of mind which regards critical assessment of facts and values as more important than dogma and which holds that a group of underlying principles is more valuable than the accumulation of information or the acquisition of skills and techniques."[93] As is readily apparent, this and other philosophies typify very specific outlooks toward knowledge and life, such as the importance of critical assessment of facts, accent on underlying principles, and the need for preparation for a career. James Perkins adds other dimensions to this type of philosophy as he defines the aim of education as learning "to know nature, society and ourselves; to acquire certain skills, such as clear expression and a grasp of the scientific methods and discipline; and finally to embrace certain values such as intellectual honesty, tolerance, and the capacity for wise judgment."[94] Thus, an individual is developed by gaining all of these things.

A final group of statements views education as the training of individuals in certain skills. One type of statement like this focuses on vocational training. This more practical, action-oriented statement has gained great prominence in our society with its ever-increasing need for experts and professionals. A type of statement which is related to education as training but has less specific goals says that the years a student spends at the university should prepare him for later life by providing him not with particular character traits, but with skills. Statements which speak of giving students the tools with which to learn so that he will be able to pursue a life of education are part of this group.

The overlapping of these groups is considerable, with most statements falling into more than one category. Beardsley Ruml exemplifies this in his definition which brings together almost the entire range of aims outlined above. To Ruml, the purpose of undergraduate education is to "discover and define and preserve the essential human values, magnify them through struggles for economic and political power, assert the good, the beautiful and the true."[95]

There are still other statements which deal with very special ways of analyzing the peculiar educational system in the United States and determining

its purposes — for example, one philosophy sees the function as an initiation rite into the upper strata of American society. While there are innumerable variations on the theme of education, it is hoped that the groups which we have outlined will provide a basis for a critical analysis of existing statements of educational purposes as well as a starting point for the formation of our own philosophy of education.

8. EVALUATION OF THESE EXAMPLES

Before beginning our analysis of these statements of educational purposes, there are several questions to be raised and several criteria to be established. The first question is brought up by R. S. Peters. Peters argues that the aims of education cannot be discussed in the same ways as other aims can be, for there is a difference in the means-ends relationship. For example, if one aims to score twenty points in a basketball game, one can pursue this aim in a certain, concrete definable way, such as shooting for the basket as often as possible. One can also evaluate how one is progressing for if one has scored only two points by the end of the first half of the game, one has not been doing too well in fulfilling the end. Finally, by the score at the end of the game one can know if one has fulfilled the aim of scoring twenty points. In almost all discussions of educational aims, this type of means-ends relationship does not exist. One cannot speak of seeking truth or developing whole men, and then show concrete means of reaching these ends, ways of evaluating progress toward them, or ascertaining the fulfillment of them. To Peters, these aims would only be legitimate if definite structures and procedures were worked out, and then proven to accomplish these aims.

Peters continues his analysis by contending that all the aims of education such as the seeking of truth and developing of whole men are "high-sounding ways of talking about doing some things rather than others and doing them in a certain manner."[96] He says that these aims are value-loaded terms used to defend specific principles of procedure against other principles of procedure. Thus, terms such as "liberal education" are merely employed to defend the introduction of more humanities and fine arts courses into the curriculum. Peters says that "values are involved in education not so much as goals or end-products, but as principles implicit in different manners of proceeding or of producing."[97] He therefore concludes that education should not be considered in the framework of philosophical aims, but rather as a discussion of principles of procedure.

The questions that Peters raises are of enormous importance in any discussion of the philosophy of education. It appears to us that many people do

use such value-loaded phrases as Peters describes, "to defend and add weight to certain principles of procedure." The temptation continually arises to do this, for the phrases are not only value-loaded and therefore hard to argue with, but also in many cases they are not at all well-defined. His discussion of the absence of a simple means-end relationship in education also seems valid. It can be seen in the fact that many statements of educational purposes became excessively abstract and concern themselves not at all with means to achieve the aims they set forth. Finally, it is well noted that principles of procedure are fundamental to discussions of education, and perhaps should be given extra weight in the discussion.

Yet, we cannot accept all that Peters recommends. The fear which Maritain presents, that principles of procedure without well-defined aims often become meaningless wanderings — moving, but in no direction — seems well grounded, especially in the contemporary university with all its complexities. Moreover, should only principles of procedure be considered, with values implicit, it is more than likely that random notions or assumptions would be, at least unconsciously, guiding the system of education.

In keeping with these reservations, we feel that it is necessary for an educational institution to have certain aims, so that the people involved in it are to make meaningful plans to discuss principles of procedures on a higher level than simply in terms of expediency, simplicity, or administrative efficiency. But these aims should not be so abstract as to defy connection with specific principles of procedure. To be effective the aims must be easily and logically tied to the principles of procedure which will in turn effect the aims of the institution.

Many will probably raise the obvious question as to how one can distinguish between instances where principles of procedure come first and functional aims are then created to add credibility to the procedure, and those cases where desirable aims are found which are then logically transferred into principles of procedure to fulfill the aims. This question appears to us not to raise a real problem, since both of these situations will naturally occur when functional aims are being arrived at. If the aims which arise from the principles of procedure are both desirable and fit coherently with other aims, then there is no reason for rejecting them. Whether the principles of procedure come first or not is a moot point. There is not really any way of knowing how aims develop. It is quite possible that unarticulated aims and values underlie the first presentation of the principle of procedure, or that various combinations of both of the above methods can take place.

This, then, is our first criterion for a good philosophy of education: that its aims be non-abstract and easily definable, and that it flows logically into principles of procedure. The next important consideration is the coherence of

aims as they are expressed and developed. This basically means that educational aims when formulated together should compliment and not interfere with each other. There should not be anything in the relationship of established aims which would prevent any of them from being fulfilled, or that would cause the fulfillment of one to the exclusion of the others. Connected with this is the idea that a philosophy must not merely be a group of aims, randomly chosen, but must be formulated into some form or system. It can be seen from this that it is impossible to really consider any of the categories of aims that we have presented to be true philosophies if this criteria is adhered to. The only cases where this is possible are those where the one overriding aim serves as the only aim for the institution and thus becomes the philosophy.

A final criterion which must be considered in the evaluation of philosophies of education is the realities of both life in the university and life in the society. This includes consideration of the other purposes of the university and of the context of the university in society and as a historical institution. The most desirable philosophy which can be constructed in theory would be of little use if its aims could not be at least approached within the realities of the university as an American institution. It is most important that while the aims may not always be achieved, they must be approachable, not only in theory, but in practice.

With these three criteria in mind, we will now consider the various groups of aims that were presented earlier. The first group of aims are those that focus on the transmission of knowledge. The origins of such aims are easily located in a time when there were no adequate facilities for written communication of knowledge, and a system of education which would provide for this transmission was needed. But is this need still present? We believe not. Moreover, since knowledge as such will be transmitted in almost any educational process regardless of the aims, the question arises as to whether the transmission of knowledge should be the dominant concern of education.

There are a number of reasons why we feel that it should not be so. First, there is great difficulty in defining what is meant by knowledge. Is it just that which is practical, or just that which can be printed, or is it almost anything that is gained by the individual at any time? Even if we could agree on a definition of knowledge, there appear to be almost insurmountable problems. As was pointed out earlier, there is an ever increasing amount of knowledge available to man. Given this fact, it has become impossible to confront all knowledge or even a significant portion of man's knowledge. The problem faced by institutions which proceed on the basis of this aim then is the determination of what knowledge is so important that it must be transmitted, what knowledge is more important than what other knowledge, or what knowledge is important enough so that every educated man must possess it. As Frank Pinner says:

> I see no particular reason for believing that all knowledge, past, present, and future is conveniently enshrined in some set of writings, sacred or profane. I am unimpressed by the recruiting efforts of my scripturally inclined brethren to demonstrate that Freud's basic ideas, for instance, were already presented by Plato or Rousseau.
>
> Also, I cannot see how, from the vast collections of facts, ideas, theories, and art products now available, one can draw a sample in any sense representative of the world's culture and learning. Our recorded heritage has so grown by both the passage of time and the geographical expansion of our dwelling space as to preclude the formulation of any criteria for culling from it the essential elements of a complete education for modern Renaissance man.[98]

With the increase in the amount of knowledge, there has been a concomitant increase in the specialization of knowledge. This has further complicated this aim by increasing the jargon posing problems in communication of the knowledge. Furthermore, as Whitehead pointed out so well, the worst possible result of an educational process is the passive reception of dead knowledge, the maintenance of inert ideas.[99] Perhaps the most fundamental point about this aim of education is the question whether there can truly be an education which does not center on the individuals who will be "transmitting" and "receiving" the knowledge. It is our firm belief that the educational process must center on the individual — a principle that we will discuss at length during the formulation of our own philosophy. After all, the pure transmission of knowledge can be reduced to the reception of knowledge by a learning machine from the tape desk of a teaching machine — a concept more Orwellian than educational.

The aims which are related to this and which deal with the transmission of culture — be it the culture of a particular society or the "vital ideas of a time"[100] — seem to have many of the same flaws. Though this does more carefully define the focus of the knowledge to be transmitted, the definition of what the vital ideas of a time or culture are must still be determined. Attempts to do this have often resulted in definitions which changing cultures soon ignore. Also, by having as a central goal the passing on of the cultural heritage of a particular time, it is conceivable that the university will be dedicating itself to the perpetuation of modes of thinking or ideas which may be only part of a narrow cultural tradition. In fact, the very definition of this aim may not be consonant with the role of the university in serving society, which includes standing far enough outside of the

cultural tradition of the society to be able to evaluate and change it. Finally, the attempt to define the culture and to pass it on might not allow for the individual differences of human beings who, as we have said, are at the center of the educational process.

The next group of aims are those which see education as the seeking of truth or wisdom. Because those words are value loaded we find it hard to disagree with these aims. But given the necessity of establishing aims which flow logically into structures, we are soon forced to admit that we have nothing concrete. How does one go about setting up structures which will facilitate the search for wisdom and truth? How does one know when one is proceeding in the right direction toward truth or wisdom, or correctly assesses the point when one reaches there? Not only are these questions unanswerable, but the aims are clouded even further when we discover the various interpretations that the proponents of this view place upon it. To some there is a "Truth" which people will reach — yet while this may be so, the determination of the Truth is far beyond our powers. To others the search for truth is but a process which is the keystone of education. Truth, wisdom, and beauty are good words to keep in mind when one thinks of the aims of education and when one pursues an education, but they do not provide sufficient ground on which to build an educational philosophy. While we might retract our criticisms of this aim if we could see it functionally defined, we must agree with those who feel it is too abstract an aim to guide a university. Moreover, we hesitate to assume that the desire and ability to seek truth should be the center of an individually centered education.

The one person who has functionally defined this aim, to our knowledge, has been Robert Huchins. He combines the search for wisdom and truth with the transmission of culture. One pursues wisdom through the study and grasp of the great works of Western culture.[101] By defining the locus of the "truth" as the great works of Western culture, he faces some of the same problems which we have pointed out in regard to those who saw the aim of education as the transmission of a particular culture. Moreover his conception of truth, based on the problems and questions involved in seeking truth, may not be relevant to the society today, nor agreed upon by the broadly based membership of the university community.

The largest group of aims, those which seek to bring about a molding of individuals, offer similar possibilities for criticism. Unlike the previous aims, however, they apparently make the individual the center of the educational process. Yet if one looks closer this is not really the case. What is at the center is a vision, an ideal man. The individuals in the educational process are seen only as potential ideals, and not as individuals with peculiar needs and characteristics.

The basic difficulty with this group is that the ideals toward which they would direct education are not easily tied to specific routes for development. How can one go about developing free men or courageous men, or measuring progress toward the achievement of these goals — much less even defining the goals? If it appears hard to discover how to develop free men or courageous men, it is nearly impossible to find out how universities can develop whole men or liberal men. As the ideal becomes broader, the tendency is to point out specific traits of whole men, or liberal men, which the universities then seek to develop. Yet these traits are often as abstract as the terms which they are meant to define, and are just as likely to resist the implementation of any means-ends relationship. Who can describe the way a university can build men who are morally courageous, able to make wise judgments after weighing all sides of the question, or any of the other traits which are used to define "liberal men"? Will everyone agree with those who equated the "whole man" with the gentleman, and then proceeded to justify specific principles of procedure such as compulsory chapel, or dressing for meals. Too often the paths of developments are based on experiential thinking — how was I developed? As the ideal becomes broader the whole question is complicated for almost any trait can be used to define liberal men or whole men — thereby making these phrases meaningless.

But what of those philosophies which are based on a very clear definition of the nature of man, and of the specific traits which should be developed in the educational process? These too raise questions as to whether procedures can be demonstrated which will lead to development of these traits. However, institutions based on this type of philosophy may be able to serve a very limited group within the society which happens to agree with the definition of the type of man the university wishes to develop. But for far more broadly based institutions such consensus is impossible to achieve. One reason for this is that many of those philosophies, usually theologically or strictly metaphysically based, while sufficient for the shaping of men in earlier ages, have remained unchanged, placing them completely at odds with the realities of American life.

The last set of aims in the developing-of-man category are those which deal with developing man to his fullest capacities. The question that obviously springs from this is "capacity for what?" When more specific definitions are presented for describing what capacities are being referred to, they are usually concerned with amounts of knowledge which can be absorbed, success within a specific social or cultural context, development of certain character traits, or development of best possible professional skills. We balk at the idea of defining specific capacities of man as a base for an educational philosophy, as these definitions are often very limited. We object to those who speak of developing capacity and then measure it by achievement tests and grades to show the development of intellectual capacity.

As is demonstrated over and over again in *The American College*, these measurement devices only measure a very narrow range of developments which are tightly defined by the nature of the test and grading system.[102] Further, those who evaluate capacity by personality test, or who make studies of the success of graduates, et cetera, cannot really show any connection between the university process and the development of capacities. If one is going to hold this type of philosophy, then he must be prepared to define what capacities are desired for individuals, and give some concrete indication of how the process of college education is going to significantly add to the development of these capacities. Thus, the example of this type of philosophy mentioned earlier, that of Griswold, is inadequate. How does an educational institution go about expanding an individual's capacity and desire for self improvement? Self improvement in what directions? How does the university enhance his capacity to find enjoyment and meaning in everything he does? The criteria for capacities will have to be analyzed more carefully before they will mean anything, and so we would agree with Peter's general ideas that very often they boil down to high sounding ways of defending principles of procedure.

The final group of aims are those which advocate the development of skills, vocational or those needed for learning, which will be used by an individual in his later life. In most cases these philosophies are concrete enough to be functional. Where these statements of educational purpose focus on professional or vocational training, we feel that there is merit in the idea shared by all the other statements of educational aims that there is something more which should be involved in the education at the undergraduate level than professional or vocational training. This something more, this something valuable which is at the core of "liberal education", should be the reason for attendance at a liberal arts institution. While professional or vocational training can be a valuable function in some parts of the university, it is our belief, for reasons discussed at length later, that a student has so much to be gained in his undergraduate years aside from professional or vocational training that this aspect of his education should be deferred until his years of technical, professional, graduate or on-the-job training. While we agree with those aims which are not oriented toward professional or vocational training, but which focus on providing tools for future learning for the student, we feel that they do not tell the whole story of what education should be. Though the student should be given things which will benefit him in later life, the four years should be imbued with certain aims other than those which are totally future oriented. We will proceed further into this when we present our philosophy for education.

As we have stated earlier, almost innumerable statements of aims for education have been presented by various individuals and institutions. We have

attempted to analyze the major groupings of these statements, but have obviously not dealt with all the possible ones, or even dwelt at as great length on the ones we have noted as they deserve. Because of the limitations of space and time we have attempted to distill them, but we have also provided footnotes and bibliographies of the original sources as often as possible to provide for a fuller discussion later. While it has been necessary to leave out enormous amounts of explanation and elaboration, we firmly believe that the criticisms which we have presented would be merited even if unlimited time and space were available.

Before we attempt to build a workable philosophy of education for Brown, it may be useful to examine the reigning statement on educational aims at Brown, in the same manner as the other statements were scrutinized.

The last complete statement of the aims of education at Brown was expressed in a report by a committee chaired by C. J. Ducasse in 1945.[103] While the committee was charged to examine the distribution requirement, it felt that any criticisms would have to take place only "in the light of some clear conception both of the objectives of a college of liberal arts, and of the contributions to these objectives prospectively to be made by the several features of the curriculum."

The Ducasse report, as it is now called, attempts to provide that "clear conception." The committee assumes that the paramount task of a college of liberal arts is to provide a liberal education, as distinguished from, for example, a vocational education, or a humanistic education, or a scientific education, or a religious education, and so on:

> The committee conceives a liberal education to be the sort of education that seeks to free man from his own ignorance, prejudices, and narrowness by making him aware of them; and that seeks to give him a comprehensive view of the ranges of human knowledge, achievements and capacities, and an appreciative insight into the typical values for which men live.
>
> This is what the possession of perspective means. The freedom it brings is freedom of choice and judgment, which consists in having a choice — in being aware of alternatives. The man who knows but one course, or sees but one aspect of things, or the compass of whose appreciation embraces but a limited range of values, has no choice or little choice as to the direction he takes. Unaware of his own blind spots and prejudices, he is held by them in an invisible jail.

> That liberal education is the type of education whose essential function is to provide the perspective that frees man from his jail is the committee's basic premise.
>
> That premise entails that a college of liberal arts has three inclusive tasks:
>
> One of them is to arouse in the student the love of intellectual exploration, which will impel him to push forward his own education as long as he lives. This task is a corollary of the fact that education is not a package which may be acquired once and for all, but is a process which cannot be completed in four years or in any definite number of years.
>
> A second task of the college is to provide the student with the knowledge necessary as basis, as tool, or as map, to anyone who would carry forward his own education.
>
> The third task is to initiate the student into the chief modes of mental activity. By a 'mode of mental activity' is meant the characteristic mental method of attacking the problem typical of a field of study. These types of activity seem to the committee to be mainly the following four: 'the discipline of formal thinking' which is marked by the means of operations on symbols and abstract from what the symbols stand for; the 'discipline of empirical inquiry' which involves the 'empirical scrutiny of nature through procedures of observation, measurement, experiment, verification;' the discipline 'of controlled hypotheses;' which centers on the 'devising; criticizing and testing of hypotheses;' and 'the discipline of sentiment and taste,' by which is 'cultivated insight into the variety and the nuances of human emotions, moods, attitudes, feelings, and sensations.'

The conception of a liberal arts education which the Ducasse Report presents seems quite sound. If prejudice and narrowness prevent men from "having a choice," from "being aware of alternatives," from "possessing perspective," then the freeing of men from prejudices and narrownesses seems to be a worthwhile aim. Yet numerous questions arise. What is the definition of prejudice and narrowness? How can a student be made to realize the prejudices and narrownesses that are part of his makeup? Do these have to be determined and

measured, and can a structured attempt at this be made? How can they be communicated to the student so that he will wish to change them and will not slip into other prejudices and narrownesses? Does realizing them really free men from them? Is it assumed that experiencing a curriculum based on the tasks outlined for a liberal education will solve these problems? If we can all agree what constitutes prejudices and narrownesses, then we might agree with this conception of liberal education, but so far this has not been done.

There are also questions raised by the three tasks which are presented for the liberal arts college. The first task is that of arousing the love of intellectual exploration. Should this really be a goal for the university? Whenever one speaks of arousing a love as an aim, there seems to be the assumption that the love for that activity is unquestionably good for all people. In this case we are not sure that it is so. It has often been expressed that a life of intellectual exploration is not the only, nor even the best way for one to spend his life. Moreover, the objection might also be raised that should the love turn to consuming passion, it could only result in another kind of narrowness. We would agree with Ducasse that the love of intellectual exploration may, in some cases, be a desirable attitude and that it will be developed as the result of interactions between students and professors, but we do not feel that it should be an institutional aim for all students. We would heartily agree with the aim that this is a corollary of — that education is not a package but a process. It is our belief, however, that there are better ways of dealing with this corollary than by arousing a love — one of them being the second task which Ducasse sets for the university, which we will examine next.

The second task of providing the tools of learning for the student seems both desirable and translatable. Yet, the tool mentioned here is knowledge and we are not convinced that the presentation of knowledge as a tool is a correct one given the trends in knowledge that we discussed earlier. As we will discuss later, we feel that the best tools are the learning of values and conceptual analysis in various areas "as basis, tool or map for anyone who would carry forward his own education" and not the presentation of knowledge. We should emphasize that this aim differs from the first one discussed in that giving someone tools for study is different from arousing the love of desire to use the tools. The provision of tools gives the option of usage to the individual; the second decides this question for the student.

The final task discussed by Ducasse also poses problems. The initiation of the student into the chief modes of mental activities is an aim with which we can agree, but we would seek clarification as to the meaning of "initiate" and of the divisions among the modes of activity. The modes of Ducasse differ significantly from those of Lowell, and even from those of Wriston, President of Brown at the time of the Ducasse Report. Because of the difficulty in reaching agreement

among people on a strict definition of the chief modes of mental activity such as Ducasse presented, we feel it would be better to set forth broad and general areas and types of approach to phenomena which will allow examination of characteristic ways of attacking problems, as well as greater flexibility in discussing the relationship among them. We would also agree to Ducasse's use of the word "initiate," if it includes not only the characteristic ways of attacking problems in the area, but also the values which underlie the approach. A lack of consideration of these values decreases the possibility of a true understanding of the approach, and might increase the possibility of a mechanical performance of these methods.

The final problem involved in the statement of aims of the Ducasse report is that we do not believe that it has worked. Whether this is because the aims could not be tied easily and logically to the principles of procedure that it outlined or that have been outlined to follow it, or whether the structures did not function properly, we do not know. Whether it is because the statement of aims is twenty-two years old and is outdated we do not know. What we feel very strongly is that its aims are unfulfilled, and this is one of the reasons we have become involved in this study. As we shall demonstrate when we review and evaluate the Brown curriculum, the aims of Ducasse have not been carried out, and this must be considered important in a review of it.

Though we have sharply criticized the Ducasse Report, it would be less than fair to leave this section without referring to our indebtedness to it for what follows. The reader will readily see that ideas from it have found their way into the philosophy of education which we attempt to construct — for example, in the provision of tools for future learning and the introduction into modes of mental activity. The idea that "a university should be structured on the basis of a clear perception of the objects of a college of liberal arts and of the specific contributions to be made to them by each of the features" is as fundamental to our study as it was to the Ducasse Report. Most importantly, the spirit of the Ducasse Report, that is the quest for the understanding of the fundamentals of education and for the creation of structures coherently designed to carry out explicit aims, has been one of the strongest influences upon us. Though it has not been as successful as we might have hoped, Brown was indeed fortunate to have this report as a blueprint for its educational function.

9. PROPOSAL FOR A PHILOSOPHY FOR BROWN

In the formulation of a philosophy of education it is important that we keep in mind the criteria for philosophies which we have described earlier. The first is that it should not be abstract — that the aims easily and logically flow into principles of procedure. The second criterion is that the aims be formulated into a coherent system so as to maximize the achievement of all the individual aims. Thirdly, the philosophy must take into account the realities of life in the university and the society as a whole.

The philosophy which we will attempt to construct is a functional one. Because it is a functional philosophy, it will be defined by the functions which it should perform, and not by one or two sentences of general aims. Also, because it is a functional philosophy, it is designed to be applicable at a specific institution which has specific capacities and limitations. The philosophy will be constructed with Brown University in mind, and should be evaluated within the context of Brown. We hope that the functions which we describe will be tied to principles of procedure in a coherent system which should be successful at Brown. It is not a universal philosophy, although we hope that other institutions will be able to benefit from parts of it.

The first principle in our philosophy of education is that the individual who is being educated is the center of the educational process. The individual may be receiving knowledge, may be seeking truth, may be undergoing character changes, but it is the individual who is always involved. Thus, while knowledge, truth, the technological and moral needs of our society, et cetera, are all important, it is our assumption that the individual is more important than all of these. There are occasions when patterns must be constructed which predict what will best apply to a group of people, but wherever possible, the individual student must be considered the most important part of the educational process. The patterns must be flexible enough to allow for the centrality of the individual. Too often, education is keyed to a pattern based on a supposed "average" but actually suited to very few individual students.

An important consideration related to this is that the individuals at the center of the educational process are human beings. This has enormous implications for the functioning of the educational policy of the university. Thus, the type of abstraction prevalent at many large schools which assigns to students the characteristics of binary numbers, often causes the deterioration of education for the sake of efficiency. Too often those caught up in the rationalistic theoretical planning of education forget that they are planning for vital human beings, whose needs, desires, and irrationalities, both mentally and physically, often do not allow for tight logical planning. If the individual is to be truly at the center of the educational process, his humanness must not be ignored.

Another aspect of this is that the educational system should focus on that which is relevant to the student. The term "relevance" is often misused, and we feel that it is important enough to attempt to define. Relevance, in the sense that we use it, refers to the connection which should exist between the needs and concerns of the student as he presently is and whatever experiences he undergoes as part of his education. This connection should work in two directions. The student's expressed needs and desires should be taken into account and he should be able to pursue those activities which seem most meaningful to him, and an effort should always be made to make the student feel the significance to himself of what he is expected to learn.

Having established that the individual student should be the center of the educational process, we feel that it is worthwhile to describe the state of mind of the individuals who come to college today — their motivations and goals and some of the pressures that they bring with them.

As Keats points out, asking students why they go to college is almost a hopeless task. Most really do not know.[104] A college education, hopefully at a prestigious institution like Brown, is expected of middle class youths as they emerge from high school. Whatever the reasons or pressures which make this so, most youths who attend college realize that they are expected to go to college, so they do. As Elizabeth Douvan and Carol Kaye state: "For many youngsters from upper-middle-class homes, the question of going or not going to college probably never arises. Continuing in school beyond high school involves no conscious decision; the child from his earliest years is taught that following high school comes college; so far as the family is concerned, this is all the child knows and all he needs to know. In this setting, a decision not to go to college is the major and highly individual one, and undoubtedly requires unusual and intense motivation and a deviant personal integration."[105] According to Keats, often vague notions of training for professions, or maintenance or improvement of social position, or the desire to be merely "collegiate," are indicated as part of this.[106] According to Riesman and Jencks, "some look at college as a four year moratorium of games,

dates, and beer parties — interspersed with the occasional bouts of idle curiosity." Further, while some students, perhaps one in five, have vague notions of wanting a liberal arts education, another one in five just want specific skills to lead them to a particular already-chosen profession, and the rest, a great majority, want simply a diploma to get a better job.[107] The professional training attitude is well expressed by Pusey: "What students seem most to want from their universities is knowledge — perhaps more accurately training, or even if we are to be completely honest, only the appearance of a university education — so that they may be able to compete for remunerative jobs in an urban technological society."[108] While aims such as intellectual accomplishment, desire for a good education, et cetera, are sometimes put forth, often they can be reduced to rationalizations of these other reasons, or vague hopes for something better than their twelve years of education have shown them.

In many cases therefore, students entering college do not know why they are there, or, if they do, their purposes may be at odds with what the liberal arts institution is dedicated to providing. Whatever the purposes and expectations of these students, the process of application and acceptance continues at an unprecedented rate, as numerous forces combine to make entrance to college — and the benefits which it allegedly brings — the center of adolescent life.

The effect of this emphasis on college entrance has often been studied. High school education becomes merely a vehicle to get into college — the more prestigious the better. Grades must be kept at a high level, extracurricular activities — numerous and varied — must be entered into, influential teachers and guidance counsellors must be courted, active alumni must be interested — all so that the high school years will result in acceptance by a good college. As Wolff describes it, "colleges search[] for ways to sort their applicants and predict their college careers, students desperately twisting themselves into what they hope will be appealing shapes."[109] For whatever reasons or pressures, the center of high school education is getting into a good college, while other aims remain secondary or are totally ignored. After the goal is achieved there is little that remains for the high school years.

Many observers feel that the same sort of process now goes on during the undergraduate years. The purpose of college becomes not education, however defined, but successful enough performance to ensure entrance into a prestigious graduate or professional school, or a profitable business, or the making of contacts which will be useful in later pursuits. This whole phenomenon, in high school and college, is explained by Wolf. "Each present was sacrificed to the future, until the presents were all past and the future an empty present."[110] This is not unfamiliar in our society. We call it prudence, or planning for the future, or deferral of gratification. This future orientation often runs contrary to any

educational aims which institutions possess, while artificial rewards such as grades, or parental approval, or the glorification of success, reinforce these attitudes. What could be more sanctioning of this than a society which regards the possession of a degree as a prime attribute of a successful man. For students coming to college under those circumstances, there seem, in general, to be two possible courses of action. Some never question their own reasons for being in college and, while there, strive for future rewards. Others react by questioning everything the system asks them to do and proceed to experience the well known identity crisis.

We feel that the university should neither encourage students to take the former course nor force them toward the latter. Rather it should have as one of the aims of its undergraduate education the creating of an environment in which students are encouraged to formulate and consider the problems which are most basic to them — what their lives are about, why they seek the goals they do, where they want to go, and what they want to do, et cetera. The institution need not encourage identity crises, but should allow students to seek the answers to these questions which, often because of future orientation and social pressures, they have avoided in earlier years. As Erickson and Sanford point out, given the nature of our society, these undergraduate years are the best time for this questioning to occur. In general, as Erickson points out,[111] "the college environment is, or could be, highly favorable to the stabilization of the young person's self-conception and self-esteem where he is offered a continuous opportunity to test himself in various spheres of activity without his failures being catastrophic and without his successes leading to premature commitments."[112] Another aspect of this same point is stressed by Riesman and Jencks when they say that "college makes possible a moratorium in which an individual has a culturally-justified pretext to spend four years growing up before committing himself to a career and a style of life."[113]

A basic assumption of this all is that if this type of reflection does not go on, the individual will miss something vital to his development — that the student who continues to proceed through his life without considering such questions as we mentioned before is perhaps not a fully "educated" individual.

This process, which we might call simply reflection or the gaining of self-knowledge, if it does take place, will do so at different times and in different ways for different individuals. Thus it is very difficult to provide specifically for principles of procedure to achieve the aim. We will attempt to show how it can be achieved first by removing or minimizing those things which might prevent its occurrence, and then by minimizing the effect of those structures which would hinder it if and when it did occur.

Those pressures which might prevent its occurrence will vary from case to case, though there seem to be several which affect almost all college students. Perhaps the foremost of these is the "future orientation" which we have already described. This future orientation often takes the form of profession-oriented study, or success oriented study — two separate but very much interrelated concepts. Both of these are found in the high school senior who chooses and enters a college. As Wolff describes it, "An Ivy League tie is a head start on the road to a corporate vice presidency or a partnership in a bank. It is much easier to get into a good medical school from a top college, easier even to gain admission to a first rate business school, from which one is almost assured a start up the executive ladder. In short, the race for college is a crucial lap in the great race for wealth, position, and power in American society."[114] For many students the race does not stop when they enter college. Given this orientation on the part of many of the entering students, colleges, which build into their structures those things which encourage students to constantly measure their work only in terms of how it is needed for future success in a profession, are not encouraging but discouraging self-examination. Wolff also notes that "Socrates said, 'the unexamined life is not worth living'; today we seem concerned with the grade rather than with the examination." The emphasis on the future seen in this concentration on success as measured by grades, rather than on the process of learning, is also often encouraged in the university. By minimizing this "future orientation" through a decrease in the concern for success, and through a decrease in the concentration on a predetermined professional area, the university will have contributed to the development of the environment needed for self-realization.

A second example of a factor which might prevent the occurrence of self-examination is excess demand on the student's time. The process of self-realization is a complex one, and one which can take place only when there is time for reflection. If the demands on a student's time are such that he has little time for reflection, little time to think about questions of identity, self-realization most probably will not occur. The university therefore should attempt to keep in perspective the demands on a student's time made by the various elements of the institution.

The following are some examples of the effects of structures which would hinder self-examination when and if it does occur. Perhaps the most important of these is the general environment of the institution. If this is restrictive, or unrealistic, or too formal, it may adversely affect the process of self-realization. For example, if rules impose a strict or regimented form of behavior, they would not allow for the individual manifestations of self-realization, and might well encourage rebellion and misconduct. Should the system be designed for only the

abstract "average student", flexibility and tolerance toward individuals might well be lacking, harming the whole process. If the environment is too formal, the communication among members of the community which focuses on the type of question involved in self-examination would probably be hampered, with only the most outgoing students being able to benefit from it.

There are also more specific examples of structures in the university which would hinder the process of self-realization. In many classes mere mechanical performance by the student is rewarded by the professor. If rewards can be obtained in this manner, if structures of the university allow the student to be satisfied at the fulfillment of the minimum formal requirements, there is little encouragement to seek the benefits of self-examination. Further, the possibility to obtain rewards for such performance increases the reliance upon this source of satisfaction, discouraging the creation of independence of thought and the attitudes necessary for self-realization.

These are only a few examples of those aspects of the university which might prevent or hamper the process of self-realization. To achieve the aim that we have set up — to minimize these and other factors — the university must make the encouragement of self-realization an avowed aim of the institution. The student could then be helped to acknowledge and deal with these kinds of pressures. Moreover, all the members of the university community could help to identify the various types of pressures on the campus, and to analyze the ways in which the pressures which are detrimental to an achievement of self-realization could be minimized.

Another aim of the educational process is the development of the intellect of the individual. We would equate the developing of intellect with the development of independence in learning — learning how to learn — an aim very close to that of Ducasse's aim of providing the tools which would allow further learning. Because this aim of developing intellect runs the risk of being abstract, we will attempt to carefully define and explain what we mean by it.

Before we do this there are two processes which have traditionally been mistakenly equated with developing intellect. First, developing intellect does not mean merely providing the student with enormous amounts of knowledge. This is true for many of the same reasons that one does not use the transmission of knowledge as the basis for a philosophy of education, but especially because of the deadening effect that mere presentation of knowledge can have. As Whitehead points out, "A merely well informed man is the most useless bore on God's earth."[115] A second process which is often confused with the development of intellect is described by Maritain as the development of sophists. As he says: "These are people who think that it is wonderful to have a mind that is quick, clever, ready to see pros and cons, eager to discuss, and to discuss anything, and

who believe that such a mind is that to which a university education must give scope, regardless of what is thought about, what is discussed, and how important the matter is. These people are unaware that if they are successful in making such a conception prevail, they would at best transform our universities into schools of sophistry. In fact, they would not even produce sophists, who have some force, but rather disarmed and talkative minds, that believe they are well informed, but live by words and opinions only."[116]

We reject both these positions. Those people who think that intellects develop in proportion to the number of hours in a class, or the number of books read, and those who delight in the production of sharp minds, have equally failed to realize what the development of intellect means.

Before we begin our definition of developing of intellect, there are a few points which we feel should be clarified. We have discovered no universal formula for the development of intellect. Nor should the development of intellect be the same for all students. Therefore, whatever structures or procedures we suggest must be flexible and must not be regarded as the only means to the accomplishment of this aim. They must rather serve as guidelines and the institution must be prepared to adapt them to the needs of the individuals, or to totally revamp them should they be deemed unsuccessful.

Consonant with the focusing of the educational process on the individual, and with the fact that there is not one way to develop intellect, is the fact that it is the individual who must choose the route of his development. The university through its structures and personnel should attempt to encourage motivation on the part of the students for going through the process of the development of his intellect, but in the end it is up to the individual to decide whether or not and how he will proceed. The major requirement of a student is that he have the motivation to proceed in some direction towards the development of his intellect. He must accept the fact that others might be able to help him in this process, or at least be willing to spend some time at the institution to see if they can. He must also acknowledge that the structures of the university might also be able to help, or at least that they should be given the opportunity. This is not to say that the members of the university — faculty and administrators — should abdicate their responsibility to educate, but rather that in their positions they should help develop motivation for the learning process, make suggestions on how it should proceed, and serve as advisors on education and not imposers of it.

We would also like to deal with the issue raised by those who discuss the intellectual faculties of man as separate and distinct from the emotional and spiritual ones. Our conception of the intellect which should be developed does not draw this distinction, and we would strongly disagree with such a reading of it — for too often this leads to the relegation of all emotional and spiritual parts of

man to places outside the university. Because we feel that this is undesirable we will later try to show more clearly how the developing intellect contains both emotional and spiritual factors.

What follows is a discussion of various ways by which we feel intellect can be developed. We recognize that the process of developing intellect, which we will define by those functions which compose it, will take on different forms in different situations, so that this list of functions may not be exhaustive. It should also be made clear that these are only general patterns which are subject to alteration.

A first component in the development of intellect is the overcoming of provincialisms. Provincialism in this context is a limitation, within the mind of a person, which keeps him from using his intellect to its fullest capacity. Different individuals exhibit different provincialisms, and the process of overcoming them must to a great extent be individually geared. Following are examples of provincialisms. The first, one that H. G. Wells was fond of discussing,[117] is temporal provincialism. This occurs when an individual fails to consider both his work, and himself, in the context of history, with the result that his scope of vision is narrowed. Daniel Bell reasoned that the overcoming of temporal provincialism would involve "emphasiz[ing] the role of contexts in establishing the meaning of ideas. . . . [T]he development of ideas . . . is solely the product of the logical development of the immanent unfolding of these ideas and forms themselves."[118] When the historical context is ignored and everything is viewed only within the contemporary time period or with no regard for time, both the advantages of looking at the past for analogy, context, and concreteness, and the value of looking towards the future for implications of actions and trends, is lost or at least minimized.

A second type of provincialism is that of viewing things only from one angle of vision. Francis Bacon provides us with a fine example in his description of his contemporary, Dr. Gilbert: "After he had employed himself most laboriously in the study and observation of the lodestone, [he] proceeded at once to construct an entire system of philosophy in accordance with his favorite subject."[119] Another example can readily be seen in the Yale Report of 1828, which deplored the presentation of more than one viewpoint — a process which it felt could only lead to the students being uncertain about the accepted truths of the classical curriculum.[120]

Closely related to the provincialism of regarding subjects from only one angle of vision is the provincialism of narrow professionalism. Although the whole question of narrow professionalism will be dealt with at length later in this paper, when it exists as a provincialism, it stands as a significant obstacle to the development of intellect. The provincialism arises from the limiting of the

students to one small, restricted area of knowledge leading them to completely downgrade, misunderstand, and ignore all others. In many cases this happens precisely because narrow professional training is training ways of doing specific things and is not concerned with an understanding of the relationship between the specific profession and other areas of human endeavor. To Ortega Y. Gasset, this leads to the production of the "new barbarian"[121] who is an expert and technocrat. Whitehead feels that minds are being produced which are in grooves, and which once in these ruts cannot get out, and eventually cannot see out.[122]

Complete reliance on authority is another provincialism. When an individual must constantly refer to an authority to add credibility to his statements, when an individual is afraid to believe something unless it is sanctioned by some authority other than his own judgement, when an individual flees from independence and responsibility in his intellectual pursuits, he is dominated by this form of provincialism. This is not to deny the validity of all authority, but rather to encourage independence, and the development of the abilities of students. This provincialism is prevalent in many students who have always relied on authorities for their opinions and values, and who have never thought of challenging these authorities. It is reinforced by the same kind of provincialism in other members of the university community, who feel that they must footnote everything they say so that they will not be responsible for statements which may offend people, or with which people may disagree.

The final provincialism that we will discuss is that of the misuse of language, which Francis Bacon called the "idol of the marketplace". This provincialism is marked by the practice, cultivated by our high schools, of developing students who can manipulate words to conceal and distort rather than to enlighten. Words and rhetoric are employed because they sound impressive, even though there is no meaning behind them. At the same time, this emphasis, as Bacon points out, accounts for the fact that "great and solemn disputes of learned men often terminate in controversies about words and names."[123] We are so well trained in style, argumentation, and debate that we destroy our chances of real inquiry, and we fail to use language to communicate. This provincialism becomes even more dangerous when people stop realizing that they are misusing language. The misuse then becomes incorporated into the way that they think. This provincialism, which victimizes many of today's students, is a large factor in the prevention of the development of intellect.

These are merely a few examples of provincialism, for each individual carries within him his own varied kinds. Because they hinder the development of intellect, the educational process, addressing itself to the individual, should help him to understand and overcome them. While we attempt in this paper to provide ways to overcome the provincialisms which we mention, other ways will

have to be constructed and perhaps institutionalized to deal with other forms of provincialism.

A second aspect of developing intellect is the development of an awareness which can lead to an understanding of the value assumptions that underlie inquiries. When man approaches any knowledge or phenomena, there are certain limitations and value assumptions present, due to the very nature of man. Further, specific ways of inquiring into knowledge and phenomena are accompanied by certain value assumptions and limitations which should be understood by the inquirer.

Thus, one should realize that the process of observation of a situation by men will distort the realities of that situation, rendering it impossible ever to achieve a description which perfectly describes it. Human desires for clarity and preciseness, or for identification, or for understanding, often lead to oversimplification, categorization, and other minor distortions of inquiry. Man, in his desire to inquire, must make value assumptions to allow him to circumvent these limitations. For example, man's inability to deal with extreme complexity often results in his acceptance of the value of looking for or imposing order on the subject of the inquiry. It is important that individuals become aware of limitations and the corresponding value assumptions.

Further, there are many value assumptions which are fundamental to particular modes of approaching knowledge and phenomena, which should be understood if one is to say that "one knows what one is doing." An empirical approach, for example, assumes the validity of the inductive principle. Various rationalistic approaches to the study of aspects of man assume that rational explanations of aspects of human behavior are possible. In the very nature of the organizations of disciplines is the assumption that a given method of inquiry and given types of material can be studied in an orderly manner. We feel that it is important that students and professors alike should be aware of, and come to understand, the limitations and value assumptions present in the various ways that they go about approaching knowledge and phenomena. In effect, what is being suggested is that the nature of inquiry itself should be made a subject matter for serious study both on a general and a specific level.

Very much connected with the study of the value assumptions which underlie and infuse inquiry, is the development of an appreciation of both the centrality of method and the necessity of conceptual analysis. Every form of inquiry makes use of particular methods, with certain methods being central to the approach. Empirical forms of inquiry are based on the central method of controlled experimentation and observation. Further, in each inquiry there are different conceptual schemes which facilitate the approach. As Bell defines it, a

concept is "a term that allows us to group together different phenomena or selected aspects of phenomena under a common rubric."[124]

A discipline thus consists of the values which infuse it, the particular central methods it employs, and a coherent group of interrelated concepts, which allow one to make theoretical or explanatory statements about the relationships of phenomena. The appreciation of the centrality of method and the necessity of conceptual analysis should begin with the introduction to various approaches to knowledge and phenomena, and the demonstration of the differing values, methodologies, and conceptual frameworks which comprise them. There are a number of reasons why the development of an appreciation of the centralities of method and the necessity of conceptual analysis should begin with the introduction to various approaches to knowledge and phenomenon, and the demonstration of the differing values, methodologies, and conceptual frameworks which comprise them. There are a number of reasons why the development of an appreciation of the centralities of method and the necessity of conceptual analysis contributes to the developing of intellect. With the enormous increase in the amount of knowledge available, and the absence of any unifying principle by which any particular knowledge can be judged as valuable or not valuable, it is more important to present to students not knowledge but tools with which to deal with various kinds of knowledge. If both the tools and a proper understanding of them are conveyed, a person is allowed to continue the life of learning, and to examine whatever types of phenomena or knowledge he desires. In the long run therefore, the student is able to take in more knowledge than if he were originally presented with as much knowledge as he could handle. A physics student of the thirties, who was only taught knowledge in the discipline and not methods of approach and conceptual analysis, should find today's physics incomprehensible, and Bell says that, "in the present phase of the organization of knowledge, one can no longer train people for specific intellectual tasks, or provide purely vocational training. In effect, obsolescence of specializations indicates that one cannot any longer educate a person for a 'job'. One has to provide the means for intellectual mobility, for continuing education, for mid-career refreshment; and this can be done only by a grounding in the modes of conceptual inquiry."[125] We therefore agree with Whitehead's old axiom that knowledge "how to" is far more valuable than knowledge "that."[126]

Another aspect of this is presented by Schwab. He feels that when classroom work is imbued with the idea of established law and accepted knowledge being transferred from teacher to student, technicians are produced. However, when students are given tools, trained conceptually, and invited to discover the limitations of present knowledge, and to invent and explore possible alternatives, then true contributions to subject matter can be made. The same is true of the

student's ability to revise and adapt the very methods of approach which he is given — the technician cannot accomplish this, but the student trained conceptually may. Thus, through the use of methods and conceptual analysis, individuals better able to cope with the changing nature[127] of intellectual and societal life are able to develop.

In the same vein, disciplines are now realizing that the refinement of their central methods and conceptual schemes is necessary in order to approach more effectively the vastly enlarged number of facts and figures dealing with the particular phenomena with which the disciplines are concerned. Here too, it is only the conceptually-oriented, and not knowledge-oriented, students who will be able to participate in this refinement.

Even though the emphasis in teaching should be placed on the methods and the conceptual frameworks within an approach, it is obvious, as Bell notes,[128] that these things cannot be taught without facts. One reason is that students often come to a subject because of an interest in its factual content. The difficulty then arises because of a tendency to make the mastery of an enormous body of factual material a prerequisite for learning the very methods and concepts which are useful in approaching and understanding it. Often the methods and concepts are not adequately presented and the student is given little chance to use them. He then is left with nothing but a large number of easily forgotten bits of knowledge. If, on the other hand, methods and concepts are emphasized from the very beginning, the student will be able to be active in approaching whatever facts are used to illuminate the study. By understanding the basic approaches of a discipline he will be able to add to his body of knowledge in whatever way he wishes after his undergraduate years.

It is therefore our belief that the individual who develops an appreciation for and understanding of the central methods and conceptual frameworks of various approaches to knowledge and phenomena is better able to assimilate and organize knowledge and to continue his education after college. He will also have greater intellectual mobility and will be more capable of defining new approaches, new methods, and new conceptual schemes. We thus come to Whitehead's definition of education as the art of the utilization of knowledge. As Patterson interprets this, "conceptual inquiry follows Whitehead's definition of education as the 'acquisition of the art of the utilization of knowledge.' It means exercising the intellect to learn, use, test, and revise ideas, concepts, theoretical constructs, propositions, and methodological principles in active inquiry."[129]

A fourth part of the development of intellect is the relation of ideas to human concerns. This part is closely tied to the idea of the individual human being as the center of the educational process, and the principle of relevance. As Whitehead says, the worst situation which can occur in education is the "passive reception of

inert ideas."[130] Inert ideas are dead fragments of knowledge — knowledge that individuals do not see as at all relevant to their lives, their interests, and their concerns. When ideas come alive for students they can relate them to themselves and to things which are real and important to them. Part of the developing of intellect is the ability to take ideas from the abstract sphere and have, as Whitehead puts it, one's imagination run rampant over the idea,[131] and have it become attached to other ideas, other concepts, and other interests one has. It is only when this happens that intellectual excitement and enjoyment can take place. As both Patterson and Whitehead point out, live human beings are at the center of the educational process, and ideas should therefore come alive when they come into contact with these human beings. The excitement and vitality that is then present is, to us, essential to good education.[132]

As was noted before, our conception of the intellect which should be developed does not exclude emotional and spiritual factors. There are emotional or spiritual approaches which involve different non-conceptual types of relationships between the individual and knowledge, phenomena, or ideas. These should be appreciated and understood by the developing intellect. For example, one may approach works of art or music, or certain pieces of literature, through one's feelings and emotions, rather than through the use of reason and concepts. It is important that one understand the values which underlie and infuse emotional and spiritual forms of inquiry, and that one gain a familiarity with the methods central to them. Though these approaches may not rest on conceptual analysis, we feel that they offer a great deal to the developing intellect, and may well point out the limitations of conceptual analysis in dealing with certain relationships between the individual and knowledge and phenomena. The emotional and spiritual approaches should therefore not be degraded, as they often are now, but should be appreciated and understood by the developing intellect.

Fundamental to all of these means of developing intellect — and yet often ignored — is the development of intellectual honesty. There are many instances in the present educational process where this is not encouraged and is even discouraged by the atmosphere of the university. Where pressure causes intellectual falsification, where distortions of personality are encouraged by certain kinds of teacher-student relationships, and where reward is often given for other than honest effort, intellectual honesty is made a mockery.

While the goal of intellectual honesty is vaguer and harder to functionally define than those other aims which we have expressed, we feel that it is necessary for the atmosphere which will ensure the success of our other aims. We feel that by encouraging honesty — by making it one of the expressed aims of the

university — and by examining and altering those structures of the university which foster intellectual dishonesty, this aim will be fulfilled.

These then are the ways which constitute the developing of intellect, that is, the fundamental developing of the ability to be independent in learning, the learning of how to learn. As Patterson defines the aims of Hampshire college, "the aim is to increase the intellectual capacity of each student so that he can undertake a significant part of his undergraduate education himself and carry his own education forward through life."[133] By making one aware of, and attempting to eliminate, the provincialisms which have hindered intellectual development; by developing an understanding of and appreciation for the values which infuse all — not the merely conceptually-based — approaches to knowledge and phenomena, and for the methods and conceptual frameworks which are central to these sundry approaches; by providing for the relation of ideas to the human concerns of each individual so that the ideas can come alive for the student; and by doing all this in an atmosphere which encourages intellectual honesty, we feel that the university will have contributed to the development of the capacity for a life of learning. Though our definition of intellect is more general than most, we hope that by functionally defining it we have made it clearer. Should the specific aspects of the developing of intellect we have expressed be found to be non-functional, or be found to be unsuccessful for a large number of individuals in the university community, they should be altered.

Another aim that we feel should be part of an undergraduate educational philosophy is the elimination of narrow professionalism. The trend towards narrow professionalism is one which has long been present in American higher education. It has been worried about, and fought over, and the reaction against it has given enormous impetus to the development of "liberal education." Yet, it still is one of the dominant trends in the university, and is felt both directly and indirectly by almost all members of the university community. We hope that our feeling for the meaning of this term "narrow professionalism" will become clearer as we proceed to discuss it.

The glorification of the professional is a part of our urban technological society. The professional who is an expert in his field is for many the new hero of our age. It is unimportant that he may have no particular feelings outside of his own discipline, or that he lacks any interest or knowledge in other areas. What is important is his competence in his own particular area.

The dangers that this holds for society have often been described. Perhaps the most fundamental one is that given by Whitehead: "The dangers arising from this aspect of professionalism are great, particularly in our democratic society. The directive force of reason is weakened. The leading intellects lack balance. They see this set of circumstances or that set, but not both sets together. The task of

coordination is left to those who lack either the force or the character to succeed in some definitive career. In short, specialized functions of the community are performed better and more progressively, but the generalized direction lacks vision. The progressiveness in detail only adds to the danger produced by the feebleness of coordination."[134]

While we realize that the dangers posed to society are even more fundamental than the ones with which we will deal, we must focus here on the effects of narrow professionalism on undergraduate education. We would agree with many including Pusey, Griswold, Bell, Barzum, Whitehead, Ortega Y Gasset, Taylor,[135] and a host of others, that narrow professionalization has been instrumental in crippling the principles of liberal education in almost every institution. What we will now attempt to do is show the problems involved in narrow professional training, and to demonstrate how it is not consonant with what we believe are the other aims of undergraduate education.

The university could hardly expect to escape the dangers posed by the trend of narrow professionalism. The university is often made up of professionals in the worst sense of the word. Too often, they are the new barbarians that Ortega Y Gasset speaks of.[136] They are experts in their field, and dare not consider anything outside of it. What is even worse, they teach this attitude. As Bell writes, paraphrasing Barzun:

> The reality is that the best colleges today are being invaded, not to say dispossessed, by the advance agents of the professions, by men who want to seize upon the young recruit as soon as may be and train him in a "tangible skill." This, at any rate, is true in the colleges attached to universities. Consider the forces at work. First, it seems desirable to have the great scholar teach undergraduates, and he naturally teaches them as if they were future scholars of his own line, as professionals. What the young themselves want is to get on as quickly as possible, and in the last two years of college they elect a major which relates directly to future profession. . . . An even stronger influence is that of the young teachers, all Ph.D's who need to establish themselves. This they can do only in one way: by showing productivity in research. . . . Accordingly, these junior scholars decline to teach anything not related to their own specialties. As one of them said to me, they do not want to teach secondhand subjects. Firsthand subjects are necessarily narrow, and what is worse, they are treated as if everyone in the class were to become a professional, a duplicate of his own teacher. . . . No undergraduate can believe

> that he is going to be at the same time an anthropologist, a Wilton scholar, a historian and a chemist. Yet that is what modern teaching assumes about him in successive hours of the college day — the motive to study is inevitably lacking in at least three out of four classes when so conducted, that is when the listener is not addressed as a person or a citizen, but only as that dreaded model of our age: the useful member of society who must be clothed in qualification and armed with license to practice.
>
> The consequence of all this is clear. In short, both teachers and students are responding to the spirit of the times. They are impatient with everything that is not directed at the development of talent into competence. . . . The meaning of this is plain; the liberal arts tradition is dead.[137]

Nor is narrow professionalism found only in some faculty members — students also manifest it. For many students the pressure towards narrow professional development begins long before college. As early as junior high school, students are encouraged to choose a field and to devote the greater part of their attentions to progressing in this field, toward the goals of expertise and therefore success. As was said earlier, for many, attendance at college, particularly at a prestigious liberal arts institution such as Brown, is only important because of degree requirements in professional or graduate schools or businesses. At colleges or universities themselves, undergraduates are pressured to quickly indicate their choice of professional area and to develop thoroughly in it. All of these things are looked upon favorably by the society, for "it is prudent to plan for one's future."

Although the concept of liberal education is paid lip service in the university, it is rarely more operative than that. Because the pressures for professional development are so strong, students are forced to justify everything in their education in terms of the relation to a future profession. More important is that the aims which we have set forth are incompatible with the pressures of narrow professionalism in a number of different ways.

All narrow professionalism hinders the aims which seek to increase self knowledge. Such pressures are among the strongest pressures which drive students toward the future, not leaving them time to consider the present. It is one of the pressures which provides them with an all too convenient explanation for their education. As Bell points out, the trend towards total professional orientation has caused the undergraduate years to be totally pre-professional in

nature.[138] This results in what Riesman and Jencks call the "professionalization of the traditional liberal arts curriculum."[139]

Perhaps the most deleterious effect of narrow professionalism is its emphasis on the development of competence through skills. This is in direct opposition to the process of developing of intellect which we have described. In narrow professional training, the education is standardized so that a certain body of knowledge and certain skills are transferred to the students. Under this scheme, the developed intellect is the one which has assimilated that knowledge and can perform a given set of tasks with the skills learned. One can therefore perform as a sociologist without understanding the values that infuse that form of inquiry, or even the centrality of method and the necessity for conceptual analysis. The important thing is the use of the skills in the performance of tasks. This demonstrates competence. Even if methods and concepts are dealt with, this narrow professionalism, emphasizing one set of concepts and methods to the exclusion of all others, often leads to the professional provincialism of which we spoke earlier. As the fields of inquiry become more specialized, the area of professional training necessary for competence becomes narrower and narrower, and thus, the professional provincialism becomes even more restrictive and more harmful than before.

Narrow professionalism also affects the fundamental orientation of the institution. The emphasis must be shifted away from the individual and onto the skills needed for competence. The very standardization of experience that this promotes negates the idea of the individual with his particular characteristics as the center of the educational process. Furthermore, human relevance is replaced by future practical relevance. For many students this leads to a deadening of the educational process. For many, narrow professionalism removes the possibility that there can be anything valuable in education other than professional training. Contributing to all these effects is the fact that professors too often have as their main task the presentation of a discipline in a professionally correct manner, and not the development of the individual student. They are happy to fulfill their allegiance to the department and their profession by attempting to encourage bright young students to major in their discipline, being very scholarly and correct in their presentations of what it is to be a competent professional in a given field. As Sanford says, "a great deal of the instruction in liberal arts colleges is clearly professional, many teachers being interested in winning recruits for their own specialties."[140]

It cannot be emphasized enough that this professional approach is not necessary. As Bell points out, courses can be taught either from a professional point of view or from what we would call a liberal point of view, while covering basically the same material.[141] What is different is the approach and the attitude.

Thus, narrow professionalism can be seen in attitudes in a particular program of training. There are courses at Brown, taught with a narrow professional attitude and orientation, which seek to develop those skills which would make the student competent and professional in his future historical analysis or literary criticism or sociological research work, et cetera. At the same time, there are courses which attempt to provide an understanding of values, methods and concepts to enable the student to pursue future work in the area if he chooses, and which allow and encourage him to integrate what he is learning in that subject with what he has learned elsewhere, and with those things which are humanly relevant to him. The differences between these are numerous. The narrow professional approach emphasizes practical application. The liberal approach emphasizes basic understanding and grasp. The professional approach emphasizes a small area of competence and its specific problems as an end; while the liberal approach emphasizes the use of the concepts and methods of an area, perhaps small, in combination with the concepts and methods of other areas for the development of outlooks and approaches, not only to the specific problems of the area, but to life. The narrow professional approach is standardized while the liberal approach attempts to deal with the concerns and needs of the particular individuals involved. The narrow professional approach has the covering of a body of material or knowledge and the developing of competence as an aim, while the liberal approach aims for the development of intellect.

We wish to make one clarification at this point. There are aspects of professionalism which are not at all narrow and which we believe are valuable. Thus, the development of professional attitudes can lead to what Whitehead calls "style"[142] and what Ortega Y. Gasset calls "being in form."[143] These aspects of professionalism are quite different from the one with which we have been concerned. Having a professional attitude in this sense is almost equivalent with the development of sophistication, not in skills and abilities, but of attitude toward one's pursuits. It is certainly not narrow and transcends any particular area of study, although it may manifest itself in one. In graduate schools, professional schools, businesses, et cetera, where professional training should rightly take place, it is hoped that the liberal education which one gets in the undergraduate years will allow one to develop these beneficial professional attitudes as well as necessary professional competence. We feel, along with Whitehead and Ortega Y. Gasset, that this professional attitude which allows for "style" and "form" will only come where a liberal education, such as we have discussed, occurs.

It is our belief that the narrow professionalism we have discussed at length has no place in an undergraduate education. It runs contrary to the other aims which we have expressed and will undermine them and the whole liberal arts

tradition. We heartily agree with President Heffner when he says that Brown should be "an institution oriented towards the liberal arts and science . . . primarily interested in the best possible undergraduate education with this orientation."[144]

These then are the four basic principles of the educational philosophy which should guide the undergraduate education of Brown University: the focusing of education on the individual human being; the encouragement of, and the removal or minimizing of, pressures which would defeat the seeking of self-knowledge; the developing of intellect; and the removal of the narrow professional orientation. We feel that all of these aims are worthwhile, and we feel that we have functionally defined them so that they are not too abstract.

It is important to emphasize that these four principles must form a coherent pattern, with each one relating constructively to the others, if this is to be a successful philosophy. If any other one is either ignored or allowed to dominate, the entire pattern would be destroyed. We feel that this is a coherent philosophy, but before we examine the interrelationship of these principles, we would like to make a recommendation which we feel would help to ensure the successful operation of this philosophy. This recommendation is centered on institutional self-study. We feel that institutional self-study must be a very important part of the activity at the institution. Self-study should focus on all aspects of university life, but we will only deal here with its relation to the educational function of the university. As Patterson says, "every new curriculum should be born with its own death warrant written into it."[145] Since all academic structures will be centered on the individual, and since the nature of individual needs and desires will change with the years, there must be an apparatus by which the structures can be altered. Further, if it is found that the structures are not performing as they should in fulfilling the aims which established them, then there should be some mechanism by which they can be evaluated and changed. Too often, as we have pointed out, structures such as the ones which we will be proposing do not fulfill the aims that led to them. Too often, they are established for specific reasons, and are defended with those reasons, but are ineffective because they cannot work given the realities of the university situation. Institutional self-study should concern itself not only with the structure of the university, but with the desirability of the aims of the institution and with their functional success. It may very well be that some of the more specific aims, and even some of the more general ones, will be found to be undesirable in the future, and there should therefore be some mechanism by which they can be changed. Institutional self-study will also be helpful in encouraging students, faculty members and administrators to be constantly aware of why they are doing what they do in the

university, and will hopefully result in a wider dialogue about the functioning of the university and its educational policy.

We feel that the institutional self-study will also be valuable in analyzing the interrelationships of the principles of our philosophy. These interrelationships are, of course, extremely complex, but we would like to describe some of them.

As we have already said, the removal of narrow professionalism will provide an impetus to all of the other aims, by removing a factor which now serves only to impede their accomplishment. Similarly, elimination of such things as future orientation, which block self-examination, will emphasize the development of intellect as a goal. The encouragement of self-questioning should facilitate one's examination and elimination of provincialism, thus aiding in the developing of intellect. The questions of what, how, and why raised in the process of self-examination, as well as by the use of institutional self-study, will accent the need for human relevance in education. If, as we have said, professional pressure is part of the future orientation which inhibits self-examination, eliminating it will greatly aid the function of self-examination.

Considering the individual as the center of education legitimizes the aim of self-examination. It also allows for necessary flexibility in any patterns and structures for developing intellect by preventing automatic reliance on efficiency or conformity. With the focus on the individual, the human needs and concerns of each student may be put forth without hesitation as a criteria for work, and thus will aid in preventing the emphasis being placed on transference of dead knowledge, rather than on human relevance.

The development of intellect, by its reliance on human relevance and overcoming of individual provincialisms, will tend toward focusing the concern of the university upon the individual. It should also aid in the consideration of questions of identity by providing new perspectives, methods and concepts for this consideration, and also by providing an atmosphere where the values of inquiry are being discovered and discussed. In not fragmenting the domain of man so as to rule out the growth of the emotional and spiritual, the developing of intellect should also help to humanize the college experience. The ability to conduct institutional self-study will also be increased by the developing of intellect.

As we stated above, situations might arise where the coherence of the philosophy would be destroyed. Should any one of the aims be considered to the exclusion of the others, the philosophy will fail. If, for example, the problems involved in making the individual the center prevent the development of intellect, or if the structures become solidified so that the aim of placing the individual as center of the educational process suffers, the philosophy would not be fulfilling our hopes for it.

However, in espousing this philosophy we feel that it is a coherent one which will work well considering the realities of the university. It is our assumption and hope that it will be effective as we have conceived it, but we have attempted to build in a safeguard in the form of institutional self-study. Should it be discovered — through whatever mechanisms are set up to implement this process — that the aims or the structures fail in their purposes, or that the philosophy is not coherent or functional or even desirable, then the institutional self-study procedure will provide for change.

These, then, are what we feel to be the components of the educational function of the university. As we have said earlier, we feel that the educational function is a valuable function for the university to undertake. The educational function, however, will not be as successful as it can be if it does not coexist and interrelate with the other university functions of acquisition of knowledge and service to society. As Pusey points out, the educative function is clearly in the interest of the society.[146] The value of the development of educated men, evident in Brown's charter,[147] still holds today. The educational function can also be of value to the research function of the university. Whitehead has pointed out the value for research of bringing professors into contact with students who are at the most curious and creative parts of their lives.[148] Teaching undergraduates also encourages professors to organize, broaden and utilize their research work. It also serves to prevent the problem faced by many researchers of becoming stale because of lack of exposure to new ideas and new perspectives which students can provide better than their fellow researchers can. Finally, students educated in the university will in many cases become those who carry out the function of acquisition of knowledge in the future.

These then are the three functions of the university. We regret that we do not have more time to explore them all, or the role of the university, more fully. We hope that this paper will touch off such a discussion at Brown. We will now proceed to discuss more completely the educational function of the university, specifically in regards to the academic structures of the university. The functional nature of our aims demands that we be able to construct principles of procedure and structures which can logically be shown to carry out the aims which we have set forth. The structures that we will now propose are designed for Brown University. They may be useful elsewhere, but we must make clear that they have been designed with only the Brown situation in mind. It is also likely that these principles of procedure and structures are not the only ones which would be pursuant to our aims. They are, however, the best approximations which we could devise.

After we complete the discussion of our proposals for various principles of procedure and structures in the university, we will briefly discuss possibilities for

implementation. Our proposals have all been designed with attention to feasibility, and we feel that although they may require a great deal of effort on the part of many of the members of the university community, they are humanly and financially feasible.

10. INTRODUCTION TO EDUCATIONAL STRUCTURES

Before we begin to discuss structures to carry out the educational aims that we have stated, we must define our conception of structure. We feel that the following definition by Sanford is a good one: "In a college the formal organization consists, most essentially, in all those policies and practices deliberately adopted with a view to the attainment of educational objectives — the curriculum, the departmental structure, the responsibilities of the faculty, methods of teaching, enrollment, attendance, examinations, grading, degrees, counseling, advising, planned extracurricular activities, etc."[149] We are assuming that structures can be established to carry out the educational aims of the university and that such structures can be successful in the situation at Brown. In this paper, we have only been able to discuss a few structures which we feel would carry out our aims; we hope that other structures consonant with our aims will be constructed later. We have only dealt with curriculum, testing, evaluation system, teaching methods, counseling, extracurricular activities, calendar, leaves of absence, departments, self-study procedure, foreign study, catalogue, and course and teacher evaluation. Those divisions subsume other categories of structures, although many are not covered. We will discuss each structure separately, although they are very much interrelated.

With each of these structures, we will consider the existing system at Brown, then evaluate it, and finally make proposals for structures to carry out what we believe are the aims of education. When aspects which presently exist are not discussed within these structures, it should be assumed that they would remain unchanged.

11. REVIEW OF BROWN CURRICULUM CHANGES, 1944–1967

The first and most important structure which we will deal with is the curriculum. According to Dean Morse in 1962, "curriculum is intended to provide general guidelines and boundaries which implicitly define educational purposes of an institution."[150] While basically accepting this definition, we will primarily view the curriculum as setting general guidelines for the development of intellect and also as an instrument for the fulfillment of the other aims of the educational function which we have discussed. We are assuming that it is valuable to set forth general guidelines for the carrying out of these aims, since it encourages the creation of more carefully conceived programs and allows for the closer following of the aims of the institution. We will begin with a discussion of the Brown curriculum as it has evolved for the past twenty years. We will then evaluate it, consider alternatives which have been tried elsewhere, and finally make our own recommendations.

The following description of curricular change at Brown from 1944-1967 is based entirely on the records of the Curriculum Committee, with the sole exception of Professor John Rowe Workman's study of the IC Course system. While we have made use of much of the information in the Curriculum Committee files, we have by no means summarized the records. The majority of the proposals which appear in the Curriculum Committee files are presented by individual departments and deal with changes solely within the departments — either in concentration requirements or in the adding or dropping of courses. We have, however, summarized those documents dealing with fundamental comments and proposed changes in the curriculum, or in the general requirements for students.

The last fundamental examination of the philosophy behind Brown's educational system took place in the years 1944 and 1945.[151] The study was based on the now well-known Ducasse Report on Distribution Requirements and was supplemented by a report on concentration requirements which owed many of its proposals to the ideas of Ducasse. The curriculum which evolved from these

studies provided the educational philosophy and operational details which were incorporated in large measure into later curricula.[152]

The Ducasse report begins with an analysis of the objectives of a liberal arts college which we have already presented. Basically, they are: to arouse a love of intellectual exploration, to provide students with knowledge, and to provide an introduction into the chief modes of mental activity. The report then discusses the ways these objectives are to be achieved. According to Ducasse, the arousal of the "love of intellectual exploration" in the student would be most encouraged by the teacher who sets an inspiring example. The purpose of the curriculum was "to insure that the student [would] acquire the two other essentials — the stock of knowledge and the mental powers" — that he needed. This was to be accomplished partly by the distribution requirement and partly by the concentration requirement.

The distribution requirement would give "the student breadth of perspective as to methods", by providing first-hand experience with the four types of mental activity which we have already listed. Secondly it would give him perspective in specific subjects by helping him acquire "some knowledge both of the most basic and of the most significant facts of a variety of fields of human experience."

Because many disciplines could equally well satisfy this first purpose, and because lack of time would necessitate the limiting of the number of fields used to fulfill the second purpose, some principles had to be developed to choose the areas which would be used for distribution. Ducasse set forth the principle that the subjects to be used must give insight into the strategic decisions of personal life, of social policy, of intelligent living in a world where scientific knowledge is playing an ever larger part, and of a life which must be enriched by the cultivation of spiritual and aesthetic taste.

To accomplish the purposes that the report outlines, the distribution system would have to provide the following:

1. Acquaintance with science — physical, biological, and psychological;

2. Insight into mathematical thinking;

3. An understanding of political and economic facts and theories that influence attempts to shape society;

4. An initiation into philosophical reflection and ideas;

> 5. A study of history to free the student from temporal provincialism;
>
> 6. Acquaintance with religion other than one's own to emancipate from bigotry and to encourage tolerance;
>
> 7. First hand experience with literature and other artistic masterpieces.

The Ducasse Report therefore recommended the establishment of distribution requirements calling for six semesters in the sciences, four semesters in the social studies and six semesters in the humanities. Distribution requirements then would provide a "rationally organized program" for the portion of the college course devoted to "general education." It would also "insure a rounded cultural background for whatever special subject of concentration the individual chooses," and would mean that all students at Brown would share "a common body of knowledge and cultural experience" which would "contribute greatly to the intellectual morale of the campus."

To prevent the distribution requirements from being mere disconnected experiences, the report turned to the question of integration. Integration, it was stated, cannot be injected into the curriculum either by use of comprehensive examinations or by integrative courses:

> Integration has to be *built in* the curriculum itself, by constructing it on the basis of a clear conception of the objectives of a college of liberal arts and of the specific contributions to be made to them by each of the features of the curriculum. If this is done, and if care is taken to make sure that both teachers and students are at all times fully aware of the educational reasons for their doing just what they are engaged in at the time, then, but only then, will effective integration have been achieved.[153]

In 1946, the faculty, endorsing the report, voted for a distribution requirement divided among the three areas, with the change that there would be twelve distribution requirements which would be apportioned equally. The opportunity to meet the distribution requirements through reading and examinations was included, thus further increasing the flexibility of the system. This also decreased the chance of schedule conflicts and enlarged the number of electives available to students.[154]

The second major instrument for achieving the objectives of the liberal arts college was the concentration requirement. In making a distinction between breadth and depth, the Ducasse Report touched briefly on the concentration requirement as an instrument to fulfill the need for in-depth work in an area.

> The essential function of the concentration requirement is to give the student . . . the experience of what *thoroughness* is like — thoroughness, namely, in the twofold sense of thoroughness of *knowledge* of the chosen area, and of thoroughness of *command* of the methods of attack relevant to the problems typical of that area.[155]

The Baylis Report of 1945 proceeded on the basis of this statement in its examination of the concentration requirement. According to this committee, "the depth demanded by the concentration requirement should give the student enough work in some limited field so that he will have at first hand the enriching experience of participating in the winning of systematic knowledge." This kind of experience should reward the student with such values as "love of knowledge," "adequate preparation for advanced study," and finally, the "ability to continue study independently" which "should characterize the liberally educated college graduate."

The 1945 report showed an awareness of the danger involved in over- or under-concentration. Over-specialization would defeat the purposes of broad liberal education and the goal of placing the concentration in its "proper perspective in relation to other human interest." It could be combated by including related courses drawn from different departments in the concentration programs. Depth of study thus does "not need to be purchased at the cost of undue narrowness." At the opposite extreme, the student must not have a concentration pattern so shallow that graduate schools will require him to take courses of an undergraduate caliber.

Concentration should be within a field of knowledge which may be, but need not be, co-extensive with a departmental area. In some cases the field will be narrower; in other cases it may cut across the usual departmental lines. For the latter situations, the development of inter-departmental patterns seemed so desirable that a sub-committee of the Curriculum Committee was to be appointed to aid in their development.

Aside from inter-departmental patterns the departments would set one or more concentration patterns within the general field. The departments would keep to a minimum the number of patterns set forth, with the required patterns in a department including courses regarded as essential for work within that field —

those which "would constitute a core or nucleus fundamental" to all work. The patterns would also allow a choice of specific courses, not necessarily in the area of concentration but possibly in related areas, to serve the special needs and interests of individual students, and to avoid a rigid "straight-jacketing."[156]

In 1946 the faculty accepted these recommendations of the Curriculum Committee and set up a concentration requirement which specified as a goal that the student attain a "reasonable degree of mastery of some special field of intellectual interest." This requirement would be judged as part of the quality requirements for graduation and was defined as eight or more courses in a field which a student would designate at the end of his fourth semester. As Professor Workman observed, this would "inure the student with some intensity in this major field . . . and [would] expose him to substantial accomplishment in the problems of advanced thought . . . ."[157]

In addition to these two major structures, the faculty in 1946 specified two other devices for the fulfillment of the objectives which Ducasse outlined. Proficiency in English composition and in one foreign language were to be acquired as soon after admission to Brown as possible. These requirements were part of the "hallmarks of a liberal education" and "constituted a tacit recognition that the student is capable of furthering his own education and developing his own urbanity."[158]

The final element of the curriculum adopted in 1946, and continued until the present, was the free elective. By using free electives, the student would be allowed to follow his own inclinations in choice of courses. Underlying this is the belief that the best academic motivation is the student's own initiative. In this curriculum, the number of electives was increased in direct relation to the student's own incentive, which was demonstrated either by the use of distribution or reading examinations, or by the early completion of the distribution requirements.[159]

The development of The Identification and Criticism of Ideas Curriculum in 1952-53, marked the next radical departure for Brown education. It had been found that the first two years of the college experience were often not satisfying the entering students. Courses were neither relating to students' past experience, nor truly preparing them for advanced work. Textbooks and lower-level classes were "short-circuiting" the education process, while survey lectures were often impeding the "emotional and mental responses" of the student. The traditional types of courses could instill facts and discipline, but it was felt that an experimental course on ideas as seen in the classic works of an area was needed to make the student weigh the facts and intelligently question a discipline.

From this last contention the Identification and Criticism of Ideas Curriculum grew at Brown. "To utilize the student's background of experience and attained

knowledge . . . , to provide him with enthusiasm and motivation for subsequent work . . . , to stimulate a flow of ideas originating in the ideas of significant thinkers out of the past . . . , and to preserve and to titillate and to augment the imagination," were the goals which the IC courses sought to fulfill. The desire to substitute a "greater degree of participatory instruction" for authoritarian classroom training also influenced its beginnings in the 1953-1954 academic year.

Two promises for the program were established. One was that the courses would be based on free discussion of ideas with the instructor as moderator and facilitator, not as judge or authoritarian figure. Secondly, the central text, a great classic which was valuable as a work of literature as well as being a principle work within an area, would be admirably suited to introductory "participatory" learning. Courses were to function, then, not as ordinary discussion courses or as great books courses, but as experimental courses lying at the heart of the curriculum and directed toward "an inquiry into values, which is a procedure as old as Socrates."

To insure a diversity of background and to discourage the exclusiveness of a smaller class, the size of the courses was finally set at twenty. Classes were to be limited to those students in the top one-half of their class, though this standard was soon waived. The length of the course was to correspond to the academic year so as to assist in the development of temporal and intellectual perspective. The experimental curriculum of the IC courses was thus superimposed upon the standard distribution requirements. The number of distribution requirements which could be fulfilled by IC courses was limited, however, because of the value seen in the regular set of distribution requirements, and because of the absence of IC courses in some departments.

It was hoped at this time that these courses would help to impart unity to the first college years and would give students the desire to educate themselves. Finally, besides the motivation, the independence of thought, and the critical attitude they would impart, IC courses were designed to stimulate the quality of reflection, thus aiding in the development of the perspective which a liberal arts college should offer its students.[160]

The next major curricular reform was initiated in 1957 and was adopted in 1958. Submitted on December 17, 1957, the basic assumption of the proposal is much in the spirit of earlier curricular revisions:

> The Curriculum should be a guide and not a formula, setting forth the general aims and standards of education, but not regimenting students into fixed patterns. Hence it should be simple and flexible, giving considerable freedom to both students

> and counselors in order to encourage intellectual exploration by students and experimentation in teaching by the faculty.

Few fundamental changes were made in the curriculum. In the proposal, the number of required distribution courses was reduced from twelve to eleven — three in each area — science, humanities, social sciences — and two others in an area outside the student's concentration. The general areas were subdivided into groups consisting of several departments. Within each area the student was required to take a one-year sequence — in the social sciences, history was required; in the humanities, literature was required. In addition, students were to take a one-semester course in a different group of departments within each area. Distribution requirements had to be met partially by IC courses, although they could be fulfilled by advanced courses with the approval of the department. Both IC and Distribution courses were retained, opened to all freshmen and sophomores, and incorporated into the regular program. The language and English proficiency requirements remained the same, but the concentration requirement was relaxed by easing the restrictions on the number of electives which could be introduced by the department. A final change stipulated that the departments or the faculty committee could assign additional reading or conference courses, given without academic credit, in the junior and senior years.

The rationale behind the changes was in general quite simple — it was the desire for simplicity and flexibility. Because it seemed that there was no real reason for distribution requirements to be completed early, provision for their fulfillment by advanced courses was made. Furthermore, the Curriculum Committee felt it desirable to expose all Brown students to the stimulation of IC courses in at least one area. In the area of distribution requirements, the committee stated:

> It is neither possible nor desirable to require all students to participate in identical areas of study, but there are certain subjects so central to a liberal education that they should be recognized in the curriculum; rather broad requirements are therefore suggested within the customary three areas."

Finally, additional reading and conference courses which would be taken without credit were instituted "in order to assist students in synthesizing the several courses in their programs."[161]

The 1957 proposal came in for sharp criticism before it was finally voted upon by the faculty. Professor Kucera wrote that the modification had the general effect of sharpening the distinctions between disciplines and of insisting on a more rigid

distribution of student time and effort. On the whole he charged that it did not increase flexibility or simplicity, the expressed objectives.[162] Dean Morse argued strenuously for retention of the twelve required courses, stating that the decrease to eleven would result in both confusion and restriction of the student's freedom to choose courses.[163] Professor Carpenter enumerated the disadvantages of the proposed distribution system, citing "an embarrassingly illogical subdivision of areas into groups," a loss of precious flexibility with the indirect requirements forming a system so complex that planning a student's program was like deciphering a code, and finally, "a discordant sound of axe-grinding," by departments.[164]

In January, 1958, the Curriculum Committee, after hearing and reading voluminous comments from a concerned faculty, made its recommendations for the curricular changes. Nearly all the faculty and administration felt that the IC should be contained within the normal curriculum. As Professor Workman reported:

> Time, the success of the venture, and enthusiasm in all quarters have made IC courses available to all students; at least two of these courses are required of every student in his first two years. . . . Enthusiasm for the program and faith in its integrity have lead the faculty . . . to incorporate it with the standard program in a new curriculum. . . . While the experimental courses have been merged with the standard curriculum . . . there is no indication that curricular interest and the spirit of quest . . . have abated or will terminate.[165]

Also approved were the retention of the language and English requirements, the expansion of electives by the departments, and the additional reading or conference courses. The only significant change from the original proposal occurred with regard to the distribution system. The number of courses required remained at twelve and the sub-groups within the areas were changed, thereby allowing the students a greater choice of courses. At the same time, this last change avoided the troublesome issue of how to divide the larger groupings into coherent smaller areas from which to choose subjects.[166]

Between the major curriculum provisions in 1958-1962, there were numerous other changes in the curriculum. In 1958 the first University Courses were initiated. According to the Curriculum Committee's subcommittee, these courses,

> in view of their unusual content . . . and the desirability of enrolling in them students of diverse background and interest . . .

> should be established without any particular departmental affiliation. . . . Rather, they should be designated in a fashion which will reflect the fact that they cut across traditional academic boundaries.

There followed the establishment of a University Course taught by Professor Lindsay on "The Role of Science in Civilization" and one taught by Professor Morgan on "The Speculative and Aesthetic Realms of Experience and Their Roles in Life".[167]

Also in 1958, Professor Kellenberger called for the Curriculum Committee to consider a revision of the Brown language requirement (the securing of an adequate grade on the language achievement test), because "each year entering students are by and large better prepared and I believe that the present requirement which is a bare minimum can be expanded without requiring, by and large, more of a student's time."[168] To this Professor Cassirer added that the present requirement was actually "an entrance requirement" which some students were allowed to complete in college, making the basic course work in a sense remedial, a situation which was not the intention of the faculty.[169]

In 1960, Professor Kellenberger reiterated that "we are at a moment when the standards and content of language proficiency can be up-graded without placing an undue strain on the curriculum." He added that changes in the teaching of modern languages also made necessary a revision of Brown methods. Under the plan then proposed by the language departments, all "A.B. candidates will have at least one semester of mature, college-level study of a foreign language and culture, and an experience which secondary schools can offer only in advanced standing courses." This proposed fourth-semester of a language which was then adopted introduced into the requirement the "study of the culture and literature represented by the language," in addition to linguistic competence.[170]

At the same time, proficiency requirements in English Composition were also undergoing revision. In April, 1958, Professor Gardner wrote the Curriculum Committee about attempts to perfect English 1–2 as an instrument for achieving competence in writing. The "Amherst Method" had been adopted in order to guide freshmen toward clear writing and thinking. Professor Gardner felt a number of problems could now be overcome. These included the fear on the part of many students of expressing a point of view; the difficulty found by many faculty members in rethinking their traditional attitudes toward teaching writing; the length of time taken by many students in discovering methods of approaching a subject; and finally the problems involved in grading and evaluation. Professor Gardner felt that the new method, despite a somewhat

shaky beginning, would significantly improve the teaching of English Composition and would continue to improve it each year.[171]

The Five-Year Master's Program was also initiated in the period 1958-1962, based on recommendations by the Three-Year Master's Degree Sub-Committee to the Curriculum Committee. The program was to be open to freshmen who, from high school work and CEEB scores, seemed to be of superior ability. General A.B. requirements were to be met, but graduate work was to begin in the senior year with expanded use of Independent Study provisions and reading courses. The program would also require a master's thesis and a period of time spent as a teaching assistant in the fifth year.[172]

Brown's last major curriculum reform grew out of a protracted discussion begun in 1961, which was marked at first by enormous amounts of dissatisfaction but few concrete proposals for change. On March 13, 1961, Professor Carpenter wrote the Curriculum Committee that:

> The collection of rules referred to as 'the curriculum' follows a cyclic pattern: from a relatively simple beginning it proceeds through a period of patchwork growth and increasing complexity to eventual collapse. It is believed that our present curriculum is now nearing its terminal stage. . . . If there is wide agreement that a revision of the rules is needed, it would be appropriate for the Curriculum Committee to initiate a study of the problem. . . . An agreement on the general meaning of the baccalaureate degree is necessary before curriculum mechanism can be revised in a logical pattern. . . . Many of the faculty believe that the current curriculum is too rigid and too detailed.[173]

Harry Usher, a 1961 graduate, added his criticism:

> The classes generally consist of verbatim copying of the teachers' lectures, supplemented by voluminous outside and suggested reading. The hour exams function as regurgitation of the lectures and reading and in effect checks to see if you were in class or know someone who takes 'good notes.' . . . The students in their all-important junior and senior years are given no framework in which to meet, discuss, express and formulate their ideas under the learned audience of a professor. In other words most Brown students are not made to *think*.[174]

President Keeney and the Curriculum Committee supplied other objections. On June 22, President Keeney warned when considering changes that the compromise of divergent proposals might lead to the elimination of the better points of each. He also pointed out dangers in the attempts to guarantee clientele for all departments by means of curricular requirements. It was agreed by the Committee that the "requirements should be fewer and less specific."[175]

At the next meeting, the Curriculum Committee asserted that before "much progress can be made in creating a curriculum, there must be considerable consensus as to the place of general education in it — if any, how much and what?"[176] At the Curriculum Committee meeting on July 26, 1961, several proposals were introduced. President Keeney offered the following telling objections to the present distribution requirements:

> Present courses provide surveys and samples but there is little, if any coherence. Our requirements are too elaborate. Where courses concentrate on a survey or sample they do not emphasize the development of the student's thinking and our emphasis in general education should be on this.

He then suggested the possible use of students in educating other students, particularly in "satellite" sections to large lectures. Professor Lindsay offered what he described as a "radical plan" which would introduce

> three new carefully planned general year courses which would be taken by all students sometime during the freshman or sophomore years. One would be in the humanities, one in the social studies, and the third in science. The purpose would be to make clear just what these disciplines are without permitting highly specialized interests to get in the way.[177]

At another Curriculum Committee meeting on August 23, Dean Kenny attempted to summarize areas of general agreement on the committee in regard to possible curricular changes:

> 1. The distribution requirements should be reduced and simplified, possibly to the extent of simply requiring a year's work in each of three major areas.
>
> 2. The English Composition and foreign language requirements should be retained.

> 3. There should be provision whereby departments could increase the volume of work required in concentration with the hope that both patterns and comprehensive examinations would become more meaningful.[178]

In December, Professor Stewart wrote the Curriculum Committee proposing "Special Programs" much like the Sc.B. programs. His letter contained ideas for a whole new curriculum:

> I submit that our difficulties in devising a satisfactory new curriculum come from the fact that we really want more than one curriculum. For a large fraction of our student body, there seems to be no pressing need for large changes in the present curriculum.
>
> For the second curriculum we would invite each department to draw up a plan of study in its field roughly similar to the present Sc.B. . . .
>
> 1. Each department may draw up a Special Program.
>
> 2. Every Special Program shall leave room for some distribution work and free electives. If the department wishes they may specify certain particular distribution courses as desirable.
>
> 3. In addition to the concentration and distribution requirement the Special Program may include required courses in departments related.
>
> 4. Honors work will be done only as part of a Special Program.
>
> 5. Those departments participating in the Special Master's Degree Program shall have five year Special Programs as well as four year Special Programs.

> 6. Whenever possible closely allied departments should make the first two years of the Special Programs as similar as possible.[179]

Based on Professor Stewart's suggestions, a *Report of a sub-committee on Curricular Revisions* was drawn up. This included discussions of the General Program, continuing along the lines of the regular curriculum, and the Special Programs:

> The Special Program, in its several forms, is designed to serve the student who knows at entrance the field or limited area in which he wishes to concentrate his study. . . . He begins preparation for advanced work in his chosen field or area in his freshman year, taking courses in departments related to such work. He will take more work in the field of concentration than he would in the General Program. . . . Courses chosen to broaden his general education are usually concentrated in the last two years rather than in the first or second.
>
> The requirements for both the programs would be exactly the same in English and Language Proficiency, quantity and quality requirements for graduation, comprehensive examinations.[180]

Opposition to this proposal soon began. Dean Morse outlined his position on July 20, 1962, when he stated that he approved of this development provided that:

> 1. It does not lead to a proliferation of new courses and programs;
>
> 2. Programs are initially limited to stronger departments which traditionally feed graduate schools;
>
> 3. The 'general' program does not become a junk yard;
>
> 4. Students are not forced to choose their field prematurely."

More specifically he worried that the plan "puts curriculum control very much into the hands of the departments which could lead to false over-specialization." Secondly, it might "force a student to make a narrow choice of subject before he has much evidence for doing it."[181]

A letter from Dean Schulze to President Keeney in August, 1962 showed many of the same reservations. While admitting that the Special Program might serve well in the preparation of students for scholarly careers, Dean Schulze pointed out how few students would really benefit in graduate schools from this kind of preparation. More important than the small number of students who do graduate work in the field of concentration was the

> notion that a university such as Brown should orient its undergraduate toward a first-rate general program in the liberal arts and science. . . . By virtue of its tradition, its size and the general dearth of academic parochialism among its faculty, Brown University, it seems to me, is ideally suited to continue to put its major effort, at the undergraduate college level, into the development of young men and women who are well, broadly, and humanely educated. . . . One of the virtues of Brown as a University-College is that both elements in our educational dichotomy are strong. As I would not have the demands of the College — teaching, counselling, etc. — unduly obtrude into the province of the University, neither would I want the University demands — scholarship, research, etc. — to unduly influence the orientation of the College.

Dean Schulze then made a few suggestions, including a new series of general requirements which led to our present system. He also recommended instituting a pre-graduate-study summer program which would allow promising students "who plan to take post-graduate work an opportunity to remain on campus . . . in order to do independent study, research, reading . . . or whatever would best prepare them for graduate school." Finally, Dean Schulze called for a system by which student, counselor, and concentration advisor would meet together to plan the concentration pattern.

Concluding his letter, Dean Schulze wrote:

> It might be argued, I realize, that much of what I've suggested could be accomplished via the general A.B. curriculum already proposed. But that would still leave us with the special curriculum, which, I think, would inevitably be given greater emphasis, support, publicity, etc., and which, more importantly, would serve . . . to define the situation insofar as Brown's conception of undergraduate education is concerned. The impression that we would have committed our central effort to

> the development of a specialist would be a valid impression. . . . And that is what I object to. I'm not opposed to the development of young people well-prepared for careers of scholarship, but I cannot accept that as the central purpose of the College — and I fear that adoption of the special curriculum would make it seem and be so. (Nor am I convinced that a special curriculum is indeed the way to insure better historians, linguists, economists, philosophers, etc.)[182]

The outlines for the curriculum which Deans Morse, Pierrel, and Schulze ultimately sponsored also appeared in a statement by Dean Morse. He said a new curriculum could follow one of two patterns:

> The first . . . is a complicated and detailed curriculum which *a priori* tries to define all possibilities and tries to reduce wisdom to a set of formulae. . . . The second alternative is a curriculum intended to provide general guidelines and boundaries which implicitly define the educational purposes of the institution.

Dean Morse chose the second alternative.

A distribution course, to Dean Morse, was one "which gives a reasonable feeling for the content and methods of the field involved." He thus recommended elimination of the present introductory courses, to be reinstated only if the courses "prepared a student for work in the area" or provided distribution for any undergraduates not going on in the discipline. This step, which would result in the end of all IC or D courses, was not entirely unexpected. Dissatisfaction with these courses dated as far back as 1961, when Professor Bloom noted "that they gradually have been moving away from the spirit in which they were conceived and that they conform to the letter rather more than they do to the philosophy of that conception."

Dean Morse's proposed curriculum "attempted to achieve two ends: the first, soundly based in Brown's academic tradition, is to provide a broad liberal arts education; the second is to provide the possibility for a solid foundation of advanced work for the future specialist." The first goal was to be met by a more coherent system of distribution. The second aim would be met by stronger concentration programs to be achieved primarily by revision of the counseling system and "by encouraging students to plan coherent concentration programs . . . as early as possible."[183]

Deans Pierrel and Morse presented the specific curriculum proposal in a report on October 16, 1962. With few changes the Curriculum Committee

submitted this curriculum proposal to the faculty. A two semester sequence in English composition "to demonstrate and maintain the ability to write the English language proficiently" would constitute the English requirement. Along with provisions for exemptions, the proposal counseled that "the literacy of all students shall continue to be subject to review, as at present, even though the formal course requirements have been satisfied." The foreign language requirement remained untouched.

In the area of distribution, the 1962 proposal, which was adopted, opened with the following statements:

> This requirement insures that every student's program includes a reasonably broad distribution of study with the several fields of formal knowledge. The specific requirements may be satisfied at any time during the four undergraduate years. The wide latitude of choice allowed permits students to plan a broadly based program of liberal studies consistent with their particular needs and interests.
>
> Each student must complete a year's work in seven of the following:
>
> 1. Mathematics of Philosophy
> 2. A Physical Science
> 3. A Life Science
> 4. Literature
> 5. Art, Music, or Religious Studies
> 6. History
> 7. A Social Study other than History
> 8. One of the above fields, excluding the department of concentration, or a University Course.

The concentration section was based on the following rationale:

> The intent of this requirement is to insure that each candidate achieves a substantial degree of competence in one particular field. . . . According to the provisions of this curriculum a student may embark upon the formal pursuit of the concentration as early as the freshman year, or as late as the beginning of the junior year. . . . The flexibility of the concentration requirement allows the student either a rather high degree of specialization or a rather broad and more general course of study.

In many ways, the specified requirements of the 1962 curriculum resembled previous requirements: the student must satisfy a program of concentration, arranged with a counselor and including courses in related fields with no limit set on the number of courses to be taken in his field of concentration. In programs which were not naturally sequential, students had to pass a comprehensive examination or a comprehensive course in order "to help the student make meaningful synthesis . . . and see the relationships between the special field and other knowledge."[184]

Before adoption of the present curriculum by the faculty, Professor Kellenberger added a suggestion from the Council on Languages and Literatures. In a letter to the Curriculum Committee on November 16, he wrote: "We would also like to suggest a provision that at the end of the first two years of operation a review and appraisal of the new curriculum be made and presented to the Faculty."[185] We have found no evidence that this was done.

With this new curriculum, Brown entered yet another phase of its curricular development. Almost immediately, however, recommendations for changes in the new curriculum appeared. In March, 1963, Professor Marks noted that:

> The trend in Brown's curriculum is toward a greater specialization. . . . [T]he cost of this trend is a reduction in the chances that students will discover the strange and interesting ways in which widely separated disciplines and periods of time touch one another.[186]

To counter this trend he suggested a required course for all freshmen, organized both historically and interdepartmentally, such as "Man's Place in the Physical World." In January of 1964, Dean Morse also proposed a new freshman program, commenting:

> Many of us feel that the freshman year at Brown is becoming more rigid and less stimulating as time goes on. . . . Where the

> work is not a continuation of high school work at a somewhat higher level, it has become preparation for specialized concentration programs. . . . With the demise of the IC courses many freshmen coming to Brown encounter no new intellectual experience, and at the same time the students' expectations regarding college are greater than in the past.
>
> Suggested here is a freshman program which has several aims. Hopefully the most important aim is to provide a stimulating experience worthy of the university which the freshman has just joined. Because it would be a common experience for all freshmen the program might provide a common background for discussion. . . . Moreover it could provide them with a broader view of the University's offerings than they might get otherwise.[187]

Though neither of these were accepted, they do indicate a strong feeling of concern on the part of the faculty and the administration. At the same time, the English composition and the language proficiency requirements were being re-examined. Although it was agreed that the writing of most students could be improved, it was considered necessary to re-evaluate the minimum requirement for all students. Dean Morse and a sub-committee recommended that those students who were placed beyond the four-level of a foreign language be viewed as having fulfilled the language requirement.[188] Professor Lopez-Morillas and the Council on Languages and Literatures strongly favored the retention of the old requirement, because of the imperfect nature of the Achievement Test, and the necessity of integrating "the language skill the students have acquired into fruitful and meaningful discussion of the culture and literature represented by the particular language."[189] Neither of these requirements were changed, however.

Perhaps the best summation of the questions raised about Brown at this time were contained in a letter from Dean Gardner to Dean Schulze, presented to the Curriculum Committee on May 20, 1965. According to Dean Gardner, several questions had been raised about the new curriculum during the academic year 1964-65. "Dean Morse worried about the dullness of the freshman year. . . . Dean Pierrel has raised the question of the inflexibility of the new curriculum."[190] Dean Gardner directed his remarks to these criticisms, feeling that they suggested the need for "some fundamental rethinking."

> The new curriculum makes it difficult, given the number of remedial courses or necessary prerequisites, for a student who

> has no clear idea of what he wants from college to find an area of specialization. . . . In the present Curriculum a student is likely to have sampled only 5 or 6 departments as opposed to 9 under the old. . . . The new curriculum presupposes early specialization . . . . For the nearly 50% of a Brown class which enters as Sc.B.'s or pre-meds, the new curriculum is initially irrelevant, given the number of prescribed courses in these programs.
>
> Secondly, there is at present no provision in the new curriculum for what some of our Ivy brethren have tried to solve under the unfortunate rubric "general education." Although courses are in the works, at present the curriculum ignores except in isolated departmentally specialized courses the issues which are likely to face our graduates for the foreseeable future.
>
> Finally, the new curriculum saw the end of the old distinction between IC and Distribution Courses. One effect of this was to reduce the number of courses open to freshmen and sophomores at the elementary level. Another effect was to make the elementary courses which remain more departmentally specialized, i.e., more specifically designed to serve as prerequisites for concentration. However, the most important effect was to remove from the curriculum a series of courses which the students . . . found exciting."

However, none of the alternatives then presented by Dean Gardner were adopted. These suggested alternatives included institution of a five-course program to increase the number of electives, reduction of concentration and distribution requirements with the same objective, or creation of a new series of courses, along the lines of Dean Morse's proposed freshman seminars.[191]

Several additional suggestions and proposals have been presented at Brown since 1965. On September 30, 1966 Professors Barnhill, Feldman, Honig, and Nelson wrote the President on the state of the creative arts at Brown, emphasizing that "the creative arts at Brown suffer from being isolated and underemphasized in the new curriculum as well as in the university community." "A new wave of creative activity is mounting in the schools," while Brown — seemingly "uniquely suited, as a school committed to the liberal arts" — does little. To open a dialogue on the problem, they asked unsuccessfully for the appointment of an ad hoc committee on the arts to be made up of members of the various disciplines.[192]

On January 6, 1967, Professor Morgan, who in 1958 with Professor Lindsay, had introduced the first University Course, presented to the Curriculum Committee a proposal for a concentration program in "Human Studies" in order to "provide opportunity and guidance for interested and capable students to study intensively one or more fundamental dimensions of human existence."[193] Primary interest in the Human Studies program is "not directed toward historical, literary, artistic or similar questions *as such*. It is rather directed toward man in his manifoldness and wholeness." The pattern, owing much to the provision of the Curriculum which allows a student to plan his own major, would consist of ten to twelve related courses, organized by the student and a committee on Human Studies. This proposal was soon adopted and is not in effect. A related proposal for an institute of Human Studies at Brown has not yet been passed.

These developments comprise the major curricular changes at Brown in the past twenty years. Yet to view them independently of one another is to miss the direction in which Brown University has been moving. Prominent in the changes have been pleas for flexibility and simplicity, ideals constantly set forth as the reasons for change and as the goals of new proposals. Rather than institute special programs with greater emphasis on concentration and related courses, there has been a tendency for departments to decrease the number of required courses in concentration programs, while allowing students to pursue elective work in their major area to an almost unlimited extent. Instead of a more rigid definition of the courses required for distribution, students have been allowed and even encouraged to satisfy distribution requirements with advanced placement credits or satisfactory results on distribution examinations. Furthermore, students have also been allowed to satisfy distribution requirements at any time in their college careers, and even, where possible, by advanced courses.

The curriculum and the distribution and concentration requirements have been designed to accommodate both the student wishing to specialize early and the student seeking a more general approach to education. Thus, one of the chief reasons that "flexibility" has been so often invoked is the wish to maintain a balance between the specialist and the generalist.

With the increased flexibility and simplicity came an increase in the freedom of the student. This freedom manifested itself in a greater number of electives allowed by the easing of distribution requirements and the lessening number of required courses in a concentration. Two other developments increased the freedom of the students. First, several new majors which cut across traditional department lines were formed. These ranged from older interdepartmental majors such as American Civilization to the new Asian Studies and Human

Studies. Secondly, a rather remarkable provision was instituted which allowed any student to form his own major.

Another important concern has been to help the student to integrate his knowledge, so as to put what he learns in the perspective of all human understanding. This concern appeared in the recommendation of the Ducasse Report:

> The purpose of the comprehensive advanced courses will be: (1) to help the student make some meaningful synthesis of the different courses taken in his field of concentration; and (2) to help him see the relationship between his special field and other areas of knowledge.

The same concern is reflected in the many recommendations for integrative courses for freshmen and seniors.

The suggestion for an integrative freshman course is also related to a desire which has been expressed with increasing frequency in the past few years — that of making the introduction to college a more meaningful, vital experience. One of the first experiments to ensure transmission of the excitement of the intellectual life was the IC courses, which were instrumental for almost ten years in the intellectual enrichment of incoming students. Suggestions in this area paralleled those prepared by Professor Marks and Deans Morse and Pierrel in 1964 and 1965. Concurrent with suggestions for special freshman courses were efforts either to eliminate the requirements of proficiency in English Composition and a foreign language or to provide more than just remedial courses. The latter efforts are demonstrated by the continued concern of Dean Gardner with the freshmen English program as well as by the many efforts by the Council on Language and Literature to provide the student not only with knowledge of the language but also with knowledge of the culture and literature of the country.

These debates over the curriculum demonstrate Brown's vitality and deep concern for education. Professor Workman wrote at the conclusion of the 1958 Curricular Revision, “there is no indication that curricular interest and the spirit of quest for maintaining the perfect curriculum have abated or will terminate.“ In May, 1967, the President of the University, Ray L. Heffner, charged Professor Laporte with the following project:

> The Curriculum Committee of the University must spend almost all of its time considering proposals made by departments and has in the past been able to take very little initiative in re-examining the curriculum on a broad basis. I believe it is

> important for the Curriculum Committee to take such initiative and to assume responsibility for reviewing the curriculum generally, in addition to reviewing specific departmental proposals. I would like to ask you to become Chairman of a sub-committee of the Curriculum Committee, which would have the responsibility of considering innovation and reform in the undergraduate curriculum of the sort that cannot be clearly and specifically related to a single department or small group of departments.[194]

Every five years since World War II has seen a major curricular study and change. As in the past, a vital concern for the curriculum exists in Brown University today.

12. EVALUATION OF CURRENT BROWN CURRICULUM

By presenting a brief description of the major changes in the Brown curriculum during the past twenty years, we have tried to establish a context which will aid in understanding the present Brown curriculum. We will now attempt to evaluate it as it presently exists.

According to the Ducasse report, as we have noted, the purpose of the curriculum is to ensure that the student acquires the essentials of a liberal education, a stock of knowledge, and the mental powers that he will need in order to achieve these purposes. Ducasse utilizes a distribution-concentration form of curriculum. The distribution portion of the curriculum is designed to provide breadth of intellectual experience; the concentration pattern is designed to provide depth.[195] This curricular organization has remained basically intact to the present time, although details of the distribution and concentration patterns have changed considerably. First, we will discuss the distribution portion of the curriculum, and then the concentration portion. After considering these, we will comment on other aspects of the curriculum as it exists at Brown.

A distribution course, according to the originator of the idea, President Lowell of Harvard, gives, "to men who do not intend to pursue the subject further a comprehension of its underlying principles and methods of thought."[196] According to Ducasse, a distribution requirement would provide a rationally organized program for the portion of the curriculum devoted to general education. It would ensure a well-rounded cultural background for the student's concentration, and would also provide a common body of knowledge and cultural experience for all students, which would increase the intellectual morale of the campus.[197]

With these purposes in mind, it is enlightening to look at the current distribution requirement at Brown. In 1962, President Keeney, in recommending a curricular study and revision, criticized the distribution program as it was then being pursued. This criticism was followed by an honest attempt to revise the curriculum and eliminate his objections. Yet, today, after four years under the

'new curriculum,' it must still be said, as president Keeney did in 1962, that "present (distribution) courses provide surveys and samples but there is little, if any, coherence. Our requirements are too elaborate. Where courses concentrate on a survey or sample, they do not emphasize the development of the student's thinking and our emphasis in general education should be on this."[198]

Our first major criticism is that the courses used to satisfy the distribution requirement lack coherence. There is no attempt to integrate or to relate to one another the various introductions to disciplinary areas. Students are presented with fragments, and often with contradictory fragments. For instance, a student taking an introductory course in philosophy at Brown for distribution credit will spend much of his time discussing the concept of mind — what it means, how it can be used, how it should be defined, et cetera. He may concurrently be taking an introductory course in psychology for distribution credit which will eliminate the entire concept of mind on the first day of class. Students are pulled in four different directions by those introductory courses, as each one is presented in isolation from the others. Very little if any attempt is made to discuss and compare values, methods and conceptual frameworks of differing approaches to knowledge and to relate the implications of these different approaches. It is obvious that this conglomeration of one or two courses cannot become a common intellectual background, for there is little if any coherence among the different courses used to satisfy the general education requirements of the curriculum. Nor can the provision for use of a university course to satisfy distribution requirements give coherence to the distribution requirements as this course fulfills only one-eighth of the requirement. Moreover, many students never take such a course.

The second objection, that the requirements are too elaborate, is also still true. In fact, they may be even more elaborate now than before President Keeney made his criticism, and before the curriculum was changed in order to increase simplicity and flexibility. This criticism is relevant on two levels. The first is that it is still difficult to understand how the requirements are to be satisfied — a fact to which both faculty and students can attest. More important, it is hard for many students and faculty members to understand exactly why the requirements are what they are. They seem illogically complex, and although we have tried to point out some of the reasons behind them, it appears that the rationale for some of the categories is still unclear. More often it seems to be a matter of fitting all of the departments somewhere — while considering departmental strengths and weaknesses — than the consideration of the intellectual base of the disciplines of Ducasse or the supposed considerations of simplicity and flexibility.

Perhaps the most important criticism of the introductory courses which are used to satisfy distribution requirements is that they do not center on what should be their main objective, the development of the capacity to think.

There are several aspects of this criticism which we feel should be pointed out. The first is that often introductory courses are designed to interest the student in majoring in a particular discipline. This places the emphasis in the course not on developing the intellect of the student, but on attracting the student into the department. President Keeney recognized the danger of this when he counseled that a distribution requirement should not be designed just to ensure the feeding of prospective majors into the department, for this does little to serve the espoused purposes of distribution requirements.[199]

Tied to this is a second aspect of the introductory courses — that they serve not only to interest prospective majors, but also to prepare them for upper level courses. This preparation is seldom a grounding in values, methods or conceptual frameworks which would be of value to students taking courses for distribution credit — more often it is in the form of a survey or summary of those facts which the department deems basic to the discipline and therefore a necessary introduction for future concentrators. As we have tried to show in previous sections, this approach also hinders the development of intellect and its focus on one particular discipline hinders the effort to obtain coherence. Closely linked to the problems involved in attracting students to and preparing them for work in a department, is the narrow professionalism often found in the course presentation. As we have previously described it, in this type of teaching the emphasis is not on underlying values, methods and conceptual frameworks, but rather on presenting the materials and the specific cognitive skills of that particular discipline. Issues which are most relevant to individuals are often ignored because the emphasis is not on the individual but rather on the presentation of a body of material which provides a sample of the type of work done within the discipline. Such a manner, as Whitehead says, often leads to the passive reception of inert knowledge, hardly conducive to the development of creative and critical thinking and the development of the intellect.

Even if these factors are removed, there are factors which impede a student from learning how to think. Foremost among them is the size of the introductory courses usually used for distribution credit. Most of these courses are large lecture courses — courses which get larger with the increasing size of each freshman class. The limited enrollment, the close contact between faculty members and students —which Professor John Rowe Workman calls essential to the questioning of ideas and approaches to knowledge[200] — are not present. The second problem with large lectures is that although the students entering the college are the ones who often most need personal attention, they are the ones

who are placed in the large, impersonal lectures. Finally, because of our belief that the college years should be marked by increasing intellectual independence, it seems paradoxical that freshmen should be coerced into intellectual independence by being placed in large lecture courses early in their college experience. While all these aspects are partially remedied by the use of small sections in some of the large lecture courses, we feel that the problems still exist.

The combined factors of the size of the lecture, and the fact that the courses are often surveys or summaries, affect the system of evaluation. These factors encourage the use of examinations which call for regurgitation of information, rather than critical and creative thinking. Such examinations neither help develop the intellect, nor consider the individual student as the center of the educational process.

One final factor which should be considered in an analysis of the introductory courses as a means of satisfying the goals of the distribution system is the attitude of many of the faculty members who teach them. Many faculty members consider teaching this type of course simply a chore. There is often boredom and disinterest due primarily to the belief that these beginning students will not prove as stimulating and challenging as those students who are involved in upper level courses and who have both more knowledge and an expressed interest in the discipline.

It is our belief that these factors underlie the failure of the introductory courses to accomplish the goals set for the distribution system. They have not only failed to fulfill these purposes, but they are also dull — as attested by Deans Morse and Lindsay, Professor Marks, and many students.[201] This dullness is particularly unfortunate because these courses are usually the first academic work with which the students come into contact. It is our belief that they are largely responsible for the deadening atmosphere often felt by students by the end of their period of "general education." The IC courses and the Special Master's Degree (M) courses, which for a period of time countered both this dullness as well as some of the other problems we have discussed, are now or will soon be gone.[202]

If the introductory courses do not satisfy the goals of the distribution requirement there is still the provision that students may obtain distribution credit for upper level courses. While this generally eliminates the dullness of the survey or summary introductory courses there are still a number of problems.

The first problem is that the use of upper level courses is no remedy for the lack of coherence which we have pointed out in regard to the use of introductory courses for distribution credit. Secondly, the narrow professionalism which we have described is not eliminated by the use of upper level courses, for this is found in upper level courses as often as, or perhaps even more often than in

introductory courses. It should also be remembered that upper level courses, which are used for concentration, have very different purposes than courses used for distribution. The mixing of students who have radically different purposes, whether or not they know what these are, serves only to compromise the purposes of concentration and distribution. Finally it should be remembered that only a small percentage of students entering Brown are well enough prepared to be able to satisfy distribution requirements with upper level courses, for most high schools do not have extensive programs in corresponding areas. While this may not remain true in the future, it is a relevant aspect of the present situation.

To summarize, there is too little coherence in either method of satisfying the distribution requirement; there is too much narrow professionalism resulting in a lack of the cultivation of intellect and the emphasis being placed not on the individual but rather on the body of information and skills to be transferred; there is too elaborate a system, which leads to confusion and a lack of understanding of the reasons for its operations; and there is often an impersonalization in the large lectures used in introductory courses and a compromising of the purposes of upper level courses which are used by some for distribution credit. Instead of a system successfully achieving the aims of Ducasse, we often face an intellectually stifling system which is founded on the hope that any set of courses taken in a wide number of departments will fulfill the aims of general education. For all these reasons, and because the students are asked to take courses they are not at all interested in, the distribution system is not only misunderstood, but resented as an obstacle to be overcome. It seems clear that the present distribution system has fulfilled neither the aims of Lowell or Ducasse, nor the aims which we have previously set forth.

Many of the statements in the curriculum committee files recognize the failure of the general education portion of the curriculum and suggest that it is a waste of time for many students. Their suggestion is that students should get on to the important business of concentrating and obtaining professional competence in an area. One infers that the general education portion of the curriculum is a hindrance to the desires and educational needs of a large segment of the undergraduates.

We agree with Dean Schulze in his reply to one proposal which suggested specialized AB programs for those outside of the sciences who wished to proceed into their concentrations without having to fulfill a large number of distribution requirements. Dean Schulze felt that far from being a waste of time, general education is a very important part of the curriculum. In agreeing with Dean Schulze's defense of the value of general education, we feel that a question which must be asked is whether a distribution system is the best vehicle for obtaining the goals of general education.

Theoretically it should be possible for a distribution system to provide for "liberal education" as defined by Ducasse. Since the Ducasse Report there have been numerous attempts to improve upon the distribution system. All too often, however, the changes have been based on departmental interests and have merely shifted the requirements. Only a few proposals for fundamental change which would retain the provision for general education have occurred — notably those of Deans Morse, Lindsay, and Professor Marks.[203] It is our belief that even with all the effort, and with all the thought, and with an end product which is one of the best, if not the best, distribution system that we have encountered, the distribution system does not seem to have been successful. Because we believe that there is much that can be gained from general education, later we will discuss possible revisions of that area of the curriculum.

We will now consider the concentration requirements in the Brown curriculum — both in purpose and in performance. The primary purpose of concentrating, according to the Baylis Report, was to show the student what thoroughness is like — thoroughness of knowledge in an area, and thoroughness of command of the methods central to approaching the problems of the area. Thoroughness is not a quality of a particular area or discipline — it can be obtained from in-depth study of almost any area. There were numerous beneficial results which were thought to flow from concentration and the resulting thoroughness. Thoroughness is supposed to inculcate in the student values such as love of learning, to prepare the student for advanced study in an area, and to help provide the ability to study independently which should characterize the liberally educated man. The Baylis Report stressed however that concentration should not be overemphasized or underemphasized, and that students should be able to relate their area of concentration to other fields, realizing the place of their work in the entire range of human endeavors.[204]

If thoroughness, then, is the aim of the concentration requirement, it remains to be determined whether the requirement as it now exists fulfills this aim both theoretically and operationally. The requirement is that a student must take a minimum of eight courses in his field of concentration. Some or all of these may be specified courses determined by the department. The department may also require more than eight courses but they may not be specified.

In theory there is at least one objection which must be raised. The number of courses which may be specified — eight — seems to have little relation to the theoretical goal of thoroughness. It appears rather to have been chosen as "just enough" — enough to develop competence in an area, which seems now to be the aim of the concentration requirement for both the department and the individual in most cases — and not too much to prohibit the fulfillment of the distribution requirements and the utilization of a minimal number of electives. There is no

recognition of the fact that some students might need to take fewer or more than eight courses in order to develop the same degree of thoroughness. The flexibility inherent in viewing the individual as the center of the educational process might allow deviation from the standard, taking into consideration the student's abilities and desires. The eight courses (and as many more as the departments are allowed to require), rather than the individual, have been placed at the center of the concentration requirement.

Aside from the technical requirement there are a number of problems in the operation of the present concentration requirement. Central to all of them is the fact that in most cases the aim of the requirement is no longer, if it ever was, thoroughness. The goal is now professional competence — the ability to perform skillfully the operations of the area, and an acquaintance with a certain amount of information considered important to the field.

This change in the purpose of concentration is reflected by the concentration requirements instituted by each department. Different questions are asked in the construction of a professionally oriented concentration than in one oriented toward the goals of thoroughness. The first asks "what should someone interested in pursuing a specific line of work be exposed to in order that he have the skills and capabilities necessary for work in the field," while the other asks, "how can students best be given a love of learning, preparation for advanced work if desired, and the ability to study independently through in-depth work?"

There are several reasons for the development of the trend toward competence as the aim of concentration. Given the scope of man's knowledge today, and the fact that is appears that there will be a constant increase in knowledge, thoroughness of knowledge in a discipline is now impossible to approach, even in a lifetime. The idea of covering a field in three or even four years is ludicrous. It is therefore unrealistic to speak of thoroughness with regard to the information and theories of a discipline, though it is our belief that the value of thoroughness can be gained with the use of the values, central methods, and conceptual frameworks of a discipline. This however is not taking place.

A second factor in the changing of the goal of concentration from thoroughness to professional competence is pressure brought to bear by the students. Because they have been encouraged in the future orientation which we have discussed in a previous section, the foremost consideration for many students in choosing a concentration is whether it will be useful in the future. The reasons for concentration set forth in the Baylis Report seem to pale before the question of how majoring in English will help in law school.

A third factor is the concern that the departments feel for preparing their students for maximum success in graduate work in the future. This feeling can easily be seen in departmental requests to the Curriculum Committee.[205] Though

the number of specific courses which they can require within the department for concentrators is limited to eight, there has been a constant effort by departments to increase the number of required courses — either by requiring courses outside the department or by presenting either/or choices within the department. Both this attempt and the efforts to extend concentration as far as possible towards the freshman year have been justified by the departments by the need to produce good historians, political scientists or sociologists, et cetera.

This departmental orientation is reinforced by some individual teachers who tend to view the concentrator as one who intends to devote his life to the field. With this orientation it is natural for the teacher to focus his attention on helping the student develop competence in the skills of the area rather than on developing in him ways of thinking and understanding which might have wider application.

The fundamental question that must now be asked is whether or not the goal of developing competent professionals should be the goal of the concentration part of the curriculum. We firmly believe that it should not be — and we would like to analyze three different aspects of our belief. First, this goal is based on what we consider to be faulty assumptions about the future of concentrators; second, it is not consonant with the values of thoroughness set forth in the Baylis Report; and third, it will impede, not encourage, the achievement of what we see as the aims of education.

The assumptions underlying the departments' adoption of professional competence as a goal of the concentration requirement are, first, that the concentrator will go on to further study in his field of concentration, and second, that extensive work in his undergraduate concentration is the best preparation for graduate work in that area. The first fact which should be pointed out is that most students do not go on to do further work in their area of concentration. According to figures supplied by Daniel Bell at Columbia and Deans Schulze and Dewart at Brown, no more than 32% of the seniors go on to graduate schools in the field of their major.[206] For this reason alone, the preparation of professionals should not be allowed to dominate the concentration section of the curriculum.

Further, as Dean Schulze well points out, outside of the sciences, almost every graduate or professional school new prefers students not to have majored in their graduate school field, or at least to have had enough time in their undergraduate program to take a wide variety of courses outside the field of graduate school specialization.[207] Adequate disciplinary training will take place in the graduate or professional school, and it is quite possible that work done as an undergraduate in an extensive concentration might be repeated. Moreover, if the concentration was both time-consuming and narrow, there is little chance that the student will have the breadth of background which a liberal education provides, and which

Ortega and Whitehead feel are essential if a person is to be "professional" in the best sense of the word.[208]

These facts make it clear that the goal of providing students with competence in their future disciplines is not a relevant one for most students. The question remains as to whether the values which the Baylis report felt could be gained by thoroughness can be gained by the achievement of professional competence. We will discuss this and will then proceed to see if competence can be consonant with our aims for undergraduate education at Brown.

For a number for reasons we believe that the present concentration requirement with its emphasis on professional competence does not achieve the goals set forth by Baylis. Perhaps the fundamental problem is that the concentration requirement has become the most important part of the curriculum and is emphasized at the expense of other aspects of the student's education. To students, the choosing of the concentration (because of its link to their future) is perhaps the most important choice which they will make in college — a far different situation than the one in which one could concentrate in any subject because any concentration would bring the benefits of thoroughness. The curriculum does little to discourage this by encouraging students to choose their area of concentration as early as possible, and to list, even before entering, their proposed principal field of study. The departments also have overemphasized concentration by focusing on the concentration requirements and on upper level courses. Introductory courses are intended to attract concentrators and there is a constant attempt to increase the number of required courses in the concentration and to extend it further and further toward the freshman year.

The emphasis on professional competence has proved detrimental to other aspects of the concentration requirement set forth by Baylis. Professional competence has become the most important consideration and the arousal of such values as a love of learning and independence in learning, especially outside of the field of concentration, suffers. Furthermore, with the emphasis on professional competence, it is rare that the area of concentration can be put into perspective with other human concerns and integrated with other areas of study. When methods, conceptual frameworks, or facts are taken from outside the narrow area, they are seldom synthesized and integrated, but are reduced to the terms of the area of concentration. The focus on a body of knowledge and the skills of an area — by our definition an essential part of this narrow professional orientation — discourages the development of the professional who has learned to see beyond his area.

The final question which must be posed is whether the goal of professional competence is consonant with the aims of education which we feel are desirable for the university to adopt. In any number of ways we feel that it is not.

The most obvious criticism, and the one that we shall not dwell on, is that the aim of professional competence, as it is now being pursued at Brown, is diametrically opposed to our aim of eliminating "narrow professionalism." Should the concentration requirement continue as it now exists, there would be little sense to dignify the university with such an obviously empty aim.

The second aspect is that the entire orientation of the aims which we have set forth is focused on the individual. As we have tried to point out this is not the case in the concentration requirement today. The whole concept of professional competence as a goal centers on the transmission of certain knowledge and skills, not on individual development. Even the purely technical aspects of the requirement, such as the fact that students must take eight courses in their field of concentration, ignore the differences among individuals. The fact that certain courses are required for concentrators is based on the assumption that there is a certain body of knowledge and certain skills that everyone who would be a member of that field should know. Departments will contend that the required courses are necessary for even attempting advanced work in the field. This too has placed the emphasis on the required skills and knowledge and not on the individual. Although many departments have attempted to become more flexible and individually oriented, the idea of an essential body of knowledge and skills — the essence of narrow professionalism — remains unchanged.

The aim of developing professional competence is also contrary to the aims of developing intellect. The angular and professional provincialisms are reinforced by narrow professionalism. This is especially true as the concentration requirement increases in importance. Human relevance, an important part of developing intellect, is also often not considered by those who see the aim of concentration as the developing of professional competence. Finally, the aim of professional competence does little to enable one to be independent in learning— *to learn how to learn*. Instead the emphasis is on learning a certain number of things. A concentration requirement which seeks to develop professional competence would teach how to handle oneself in a particular area, rather than how to develop the intellect as we have outlined it.

For all these reasons we agree with Dean Schulze's statement of 1962: "I am not opposed to the development of young people well prepared for careers of scholarship, but I cannot accept that as the central purpose of the college . . . ."[209] Because professional competence has been made the aim of the concentration requirement, it is our belief that the present requirement can fulfill neither the aims of the Baylis Report nor the aims of education which we have set forth.

It might be argued that the problems involved in the concentration requirement which we have presented are not found in either the interdisciplinary concentrations or in the provisions for constructing one's own

major. In this second category we will include the newly adopted Human Studies Program.

It is true that the interdisciplinary concentrations such as American Civilization and International Relations relieve much of the departmental emphasis for the simple reasons that each department's interest is balanced by the interest of other departments. Yet departmental emphasis still exists in the upper level courses which are used to satisfy the concentration requirements and so cannot be totally dismissed. A second problem that has long troubled the interdisciplinary concentrations is their lack of coherence and depth. In many cases disparate aspects of an area will be studied, with the hope that there will be coherence because all of the aspects are concerned with a broad topic such as American civilization or international relations. These aspects are also often studied superficially, resulting in so little depth that the values of thoroughness are never achieved. One final problem is that here too a certain number of courses is required, raising the same problems as we have noted before.

In the last several years a new and exciting innovation has taken place at Brown. This is the provision that students be allowed to construct their own majors. This development has focused the concentration requirement on the individual, and has minimized departmental emphasis, yet it still has not been totally successful for a number of reasons. The first is that like all other concentrations a student must take at least eight courses, raising problems previously mentioned. More important is the fact that few students take advantage of the opportunity. One explanation for this is the fact that few students actually know about this provision. A second is that most students do not have a clearly defined program which they would like to follow — which is a necessity in forming one's major, as one must not only gain approval for courses choices, but must also designate a structure which would take the place of a comprehensive examination. Another explanation is the future orientation of the students themselves, for the question of how Human Studies will help in law school still arises. Finally, it may be the result of the departmental orientation which the student feels immediately through the introductory courses which attempt to attract concentrators. For whatever reasons, these provisions, which theoretically are extremely valuable, are not as successful in practice.

After considering the concentration requirement as it now exists, we must conclude that, like the distribution requirement, it is well conceived but is not successful in achieving the aims of the Baylis Report or the aims which we have set forth. Later on in this paper we will try to make suggestions which will attempt to achieve the values which we believe can be gained from concentration.

Another aspect of the Brown curriculum is the provision for integration of what is learned. The last statement of how integration was to take place was in

the Ducasse report. According to Ducasse, "integration has to be *built in* the curriculum itself, by constructing it on the basis of a clear conception of the objectives of a college of liberal arts and of the specific contributions to be made to them by each of the features of the curriculum. If this is done and care is taken to make sure *that both teachers and students are at all times fully conscious of the educational reasons for their doing just what they are engaged in at the time*, then, but only then, will effective integration have been achieved."[210]

Unfortunately at Brown integration is not taking place. Members of the university community are very rarely aware of the objectives and reasons for their everyday proceedings within the curricular structure, and the curriculum no longer reflects clear-cut well-defined objectives, nor specific structures performing specific functions.

Curricula obviously have dozens of factors which could be discussed, everything from course credit to hour lengths of courses, et cetera. We will now deal only with the two other course requirements.

The first is the required English composition course. It is a credit to the spirit of Brown, that so many attempts to make this course meaningful have been made — in fact, this requirement has changed with almost every new year. Unfortunately, there is no indication that this course is any more meaningful for students today than it has been in the past. It still contributes to what Dean Pierrel and Dean Morse have called the "rigid" and "boring" freshman year.[211]

Another requirement is that of proficiency in a foreign language. This requirement is based on the feeling that the understanding of a foreign language and the ability to study the associated literature and culture is part of a liberal education. This requirement has also been changed, from demanding a certain score on the language achievement test to the present system of having to take one course at Brown at the 4 level or above. It is apparent without debating the merits of the requirement, which we will do later, that in many cases the intent of the requirement is not being served. Most students regard the language requirement as an obstacle to be overcome and consequently there is little enthusiasm for it. Very rarely is any proficiency in the language or significant knowledge of the culture gained. Too often the requirement has been reduced for the most part to time serving. This is not the fault of the departments who have attempted time and time again to provide good courses, but often rather of the nature of the requirement itself and the resulting attitudes of students. We will discuss this further when we make proposals for changing this requirement.

Paul Dressel has classified four possible reasons why a curriculum may be found inadequate after a careful evaluation has taken place: 1. The objectives of the university may be inappropriate, unclear, or unachievable. 2. The experiences

may not be relevant to the objectives. 3. The organization of experiences may be inadequate. 4. The evaluation instruments may be invalid.[212]

In our criticisms of the Brown Curriculum, we must reject the fourth possibility, as we are the evaluating instrument. We feel that though many of the objectives are clear, they are often inappropriate and unapproachable. We also believe that the organization of the educational experiences has not been as good as possible, and thus criticism of the manner of presentation or of the orientation of the courses has occupied much of our thought and our writing. But the main feeling is that because the experiences which do take place are not relevant to the objectives, even if those objectives are clear, appropriate, and achievable, the objectives are not carried out.

These are very cursory criticisms of the major aspects of the Brown Curriculum. Other aspects have not been discussed here either because of a lack of information in the Curriculum Committee files, or because they could be best commented on in other sections of the report, or because of the limitations of time and space in such a report as this. We will readily acknowledge the superficiality of our presentation, but we hope that as we proceed our feelings about Brown's curriculum will become clearer and the need for change more obvious. We will now examine certain alternatives to the present system, and then will make recommendations for curricular structures, keeping Dressel's criteria in mind.

13. FREE UNIVERSITY AND THE EXPERIMENTAL COLLEGE ALTERNATIVES

Having shown the Brown curriculum to be less effective than we would hope it to be, we feel that we should make suggestions for its improvement. In doing this, we have considered and rejected various curricular alternatives which have been used at other institutions. This section will deal with one of these alternatives and will outline our reasons for rejecting its adoption at Brown.

The curricular alternative which we will explore first is the building of a "free university" or an "experimental college." These institutions, formed by student and faculty initiative, have been the dominant means of expressing discontent with the educational system in the 60's. It is our belief however that the free university / experimental college movement — valuable though it has been in serving certain educational needs and in stirring up support for educational reform — is not the best alternative for Brown. Before presenting our reasons for not wishing to initiate such a movement here we will describe the origins of the movement, give examples of how it has proceeded, and discuss its strengths and weaknesses, its successes and failures. Our commentary is based on various reports and bulletins issued by about twenty of these free universities and experimental colleges across the country.[213]

The movement toward student- and faculty-initiated projects did not really gain momentum until 1965. Beginning with the Experimental College at San Francisco State, they now range from Berkeley in the West to Chapel Hill in the East, from Houston in the South to Dartmouth in the North. Nor have the projects been confined to college campuses — student and faculty initiative has also led to independent projects in New York City, Detroit and San Francisco. There are now over 60 projects, with more starting every year. These projects vary in style, yet they all seem to have grown out of some common dissatisfactions with the present state of higher education, and some shared feelings about what higher education should be.

Some of the strongest criticisms of existing structures found in the literature of these experiments deal with the relationship between what the student is expected to learn and the problems of his life and the society around him. Many students feel that course work does not deal with issues relevant to their lives, that it ignores the real problems of the world, such as the Vietnam war, poverty, and racial injustice, and that it does not enable students to reach solutions to these problems for themselves. This situation is reinforced by the belief that academic institutions relegate education to the classroom, compartmentalizing the student's life so that education is completely separated from the rest of his experience. Education, to these students, has been removed from life; the school has opted out of society.[214]

The assumptions underlying these complaints should be carefully scrutinized since they raise serious questions about what a university liberal arts education should be. One assumption is that a university should serve as a mediator, in some sense, between the student and the social issues that are "relevant." This assumption is now nearly universally accepted when taken to mean that the university should provide the student with ideas and modes of analysis that will prove useful to him, in whatever area he chooses. But the complaints of the initiators of these projects make it obvious that a significant number of students do not consider this type of mediation adequate. They have demanded that the priorities of in-class course work be changed so that the proximity of a particular subject to the students' interests and concerns determine its academic importance.[215] The universities have met these demands with confusion and irritation — often because they have no consistent philosophy dealing with the relationship between the institution, the students and society other than the oft-repeated platitude which says the purpose of the institution is "to aid in the development of good citizens."

The complaint about the lack of "relevance" is particularly strong in the social sciences. Many of the most important concerns of students today are in areas which have traditionally been dealt with by social sciences. The call for objectivism and neutralism and the desire to obtain historical perspective in these studies have run contrary to the desires for "relevance" and active concern.

Another criticism is that the educational experience is not shaped by all of the participants. In only a few areas of the institution — if in any — do students participate actively in the decision-making process. They have little or no role in the determination of what is taught, and how it will be taught. Because of this the student often feels little responsibility for his own education.[216]

Learning in courses is condemned as a passive process.[217] The content, once determined, is poured into the students' minds with the hope that it will be correctly regurgitated at examination time. Challenge, the critics maintain, is

regarded as a sin; the authoritarian structure is reinforced by constant rewards for obeisance. Furthermore, the ideas are inert, neither living, vibrant, nor intellectually stimulating. Obviously, much of the blame for student passivity must lie on the students themselves, yet more experimenters have felt that passivity is inevitable when students are not helped to understand why a subject is studied, or how to grasp the implications for his life of the mode of approach.

Another charge is that the forms of evaluation now in use tend to corrupt the learning process. The grading system is an administratively simple system of evaluation, allegedly serving the graduate schools, but is doing so with harmful side effects. First, the evaluating system rarely serves the learning process, because one of the main purposes of examination — integration and synthesis of material — is almost always neglected. At the same time the means of evaluation often increase the pressures of competition, decrease the chance of withdrawal from societal pressures for success and its future orientation, and replace more important internal motivation with artificial, external reinforcement. Finally, the system and the pressures it generates endanger the fundamental relationship of the learning situation — the always tenuous relationship between student and teacher.

The formal institutions have also been charged with resisting innovation and experimentation; the status quo seems the goal for many universities.[218] Structures, rules, and personnel are seen as having no purpose other than that of resisting change and minimizing innovation. To the minds of such critics, the university should find new ways of educating men — not pay consonant homage to the old ways, nor teach men not to "rock the boat."

Another complaint with a timeless ring is that the student is exposed to fragments of knowledge which bear little if any relation to other bits of knowledge.[219] This criticism is aimed not only at students who don't take the initiative in relating the various forms of knowledge they encounter but more especially at the departmental structure with its early specialization and professionalization of undergraduate institutions, which not only reinforces the breakdown of knowledge into handy, but not altogether legitimate, categories, but also attempts to initiate the student into such a manner of thinking.

A final complaint, found primarily in the projects at large universities like Berkeley and Boston University, is that the rapid increase in enrollment has destroyed the personal contact between the student and his teacher. The direct relationship is replaced by the television cameras of the closed circuit studio, the mammoth lecture hall, and the steel teaching machine. The student's opportunity to be close to another human being at work in a particular area has been lost in the multiversity.

Certain new attitudes, as well as the conditions which led to these criticisms, have contributed to the establishment of the free universities and experimental colleges. Foremost among these was the new-found student activism which is based on a regard for the power of individuals to shape events. Related to this was the growing conviction that those acted upon in an event could and should have a voice in determining the mode and direction of this action. The Civil Rights movement provided the first opportunity for the expression of this activism. The feeling of being able to move seemingly unmovable institutions and practices gave rise to a new self-confidence on the part of many activists and led to a belief that changes in power and structures could occur more rapidly than had been formerly assumed.

A second factor was the increased focusing of student activism in the community outside of the institution. This led to the feeling which we noted earlier that some instrumentalities of the parent institution should serve as channels for student involvement in the larger community.

A third factor — compounded of the first two, and adding an impetus to them — helped solidify the foundations for experimentation. This was the Berkeley Free Speech Movement. Far beyond the issues of the particular conflict, it symbolized to many students the need to establish the strength necessary to effect radical change. Most of today's demands for "Student Power" may be traced back to the Free Speech Movement; the increasing demands for student participation in academic policy formation raise issues similar markedly to those raised at Berkeley.[220]

This breakaway from issues which have traditionally concerned students has tended, in the words of one experimental college organizer, to "break down the psychological separation of students from the real life of the institution. It also started to increase the prestige and self-confidence of students who were willing to work on organizational problems, and could now emerge from institutional conflicts with some victories."[221]

From these developments in the attitudes of students about their role and their potential power, and from a common view of the flaws in academic institutions, have sprung pressures for a wide range of reforms and experiments. Some institutions have put into effect spot reforms. The institution of pass-fail courses for example, is an attempt to minimize the importance of grades and to encourage exploration of fields outside of a student's competence. The increase in course and teacher analysis, used to help the teacher provide and the student obtain the best quality of instruction is another example. At many institutions change has taken the form of an increasing role for students in policy formation — by allowing them to sit on faculty curriculum committees, or by giving them some voice in tenure decisions.

But the most sweeping reaction to the pressure has been found in the establishment of a counter institution — one that would work from different premises from the formal academic institutions; one that would attempt to deal effectively with the multitude of student complaints by transforming them into the positive basis for a new kind of education.

The need for these institutions was recognized across the country. An institution had to be created in which the participants could shape the educational environment, and in which they could share the basic responsibility for the learning process. What would be learned was to be determined by the participants, and would be relevant both to themselves and to the world in which they were living. The institution would not be authoritarian but communal. The problems caused by grades, majors, minors, credits and a specific form of graduation had to be minimized. A method of evaluation would be found which would serve the joint purposes of evaluation and learning, rather than serving solely as external reinforcement.

A variety of structures were created across the country to carry out these principles. The fundamental differences among them lay in the relationship to the parent institution and in the nature of the organizations. Perhaps the only two things shared by every experiment were that each was set up by students and faculty, and that each was to some degree separated from its parent institution. What will be labeled the "experimental college" in this section is an institution that retains some formal tie to the parent community, while the "free university" is independent of such ties.

The development of experimental colleges is perhaps best represented by the first and most influential of them, San Francisco State Experimental College.[222] This experimental college emerged for a variety of reasons which began in the early 1960's when students began to enter more seriously into the making of decisions concerning education at the college. A faculty policy statement guaranteed student academic freedom. The student government began to serve as the channel for student activists. A tutorial program was initiated. Student representation in the Academic Senate was guaranteed, while at the same time a Community Involvement Program served to initiate students into the surrounding community.

In the fall of 1965 the real foundations for the Experimental College were laid. Three experimental seminars were organized by students, two of them focusing on education and personal values. Toward the end of the semester it became obvious that there were other students who wished to organize seminars, and the student government, through its Academic Affairs Council, helped set up further experimental courses. From these arrangements, the Experimental College arose,

with an initial group of 350 students in 21 learning groups, and it has now been expanded to well over a thousand students and faculty.

The intended effect of the San Francisco State experimental college is well-stated by a project proposal for a foundation grant. The college would serve as a "vehicle for improvement in the teaching-learning process that is student governed and that is free of the norms, prerogatives, rules, and regulations of the formal institution. . . . [I]t will seek to perpetrate itself as an institution where students can engage in self-directed, relevant educational experiences — regardless of any impact on the formal institution." As will be pointed out later, there has indeed been a great impact on the parent formal institution as well.

Diverse course topics and structures are readily accepted in the San Francisco State experimental college. No one method of presentation has been chosen as the best environment for learning. Many varieties are tried. Nor are there recommended topics for the curriculum. Material may duplicate or supplement material presented in the standard curriculum of the parent institution, and it may, as is often the case, focus on contemporary questions such as Black Power, and the war in Vietnam. The courses may receive credit at the parent institution — sixty-six of the first students in the Experimental College received course credit through Independent study or seminar provisions. To provide necessary evaluation, a wide variety of devices are used - ranging from the traditional type of grades, to cooperative grading in which both teacher and student participate, to pass-fail options. A great deal of freedom is given to the individuals participating in each learning situation to determine what and how they will learn.

As was said earlier, Free Universities as defined in this paper, have no formal ties with the parent institution, and are generally established to replace and not necessarily supplement or change the parent institution. In most cases, there are no credits, no grades, and no rigid hierarchical structures. Though courses may have teachers, underlying most of the free universities is the belief that a natural hierarchy will evolve in the learning situation, and that this is the only valid hierarchy. There is often a belief in small learning units as contrasted with large lectures or discussion groups. The course content is often similar to that in experimental colleges though perhaps even more politically oriented. One reason for this is that many of the free universities are comprised of students and faculty drawn together by a strongly familiar world-view. A prime example of this type of institution is the Free University at Berkeley.[223]

The purposes of the Free University of Berkeley (FUB) are outlined in one of its first newsletters:

> The Free University is a promise and a protest. It promises a new focus for our intellectual concerns. It rejects the Educational Establishment which produces proud cynicism but sustains neither enthusiasm nor integrity.
>
> The Free University is forged in response to an education both sterile and stultifying, an education which fragments our experience and distorts meaning, which confuses rather than encourages action, and which provides — behind the pretense of knowledge — escape from ourselves and the problems of our day.
>
> Accordingly, we organize in the interest of students to cultivate the skills and courage necessary for effective choice, fruitful exploration, and successful action. We break the monopoly of educational initiative and the isolation of privatized research to experiment with cooperative learning. We pass beyond permissible truths to grapple with the conflicts affecting our society, and to develop the concepts which will replace myths shattered in Watts and Vietnam. The Free University of Berkeley seeks, simply, to create a place where teacher and student, education and action can come together.

FUB consists of community meetings at which business is conducted and projects planned, forums held from time to time during which issues of current interest are discussed, a library made up mostly of periodicals and pamphlets, a new left magazine called STEPS, and classes, given by anyone who desires, which are held at the nearby Walden School. Anyone may participate in these programs for there are no requirements for entrance though there is a slight service charge for the classes. Welfare recipients may attend free of charge.

An indication of the scope of the project and its political orientation can be gathered from the following, a statement from the newsletter marking the beginning of the February, 1967 session:

> 376 students registered this session in 32 classes. Would you believe 104 more students than our last session? This increase is a surprising and curious thing. Whatever else, it signifies a great and growing dissatisfaction with existing educational opportunities (including the mass media and the "Great University"). The numbers suggest that our problem is no longer

> limited to merely convincing people that our society is a cruel, difficult or exploitive place to live; the course titles show that these facts have already become premises for new investigations. Our difficulty is related to *coming to grips* with these dissatisfactions; discussing causes, formulating solutions, articulating and preserving our discontent. Berkeley history has shown that new theoretical and social contexts are quite important for sustaining the questions and commitments sparked by strikes, war-protests, run-ins with the Draft, etc. . . . Our numbers don't mean we're successful, but they point in that direction by encouraging a participating, problem oriented education which will change our lives while changing the social causes of our discontent.

The two examples given here, that of San Francisco State and Berkeley, are fairly representative of the range of experiments, but as we said earlier, each experiment is different. For example, at some institutions, courses are run outside of the curriculum, and course credit is granted through the mechanism of independent study; [224] at others, the experimental courses soon became part of the actual curriculum.[225]

A final example which may illustrate the diversity of the experiments is that at Dartmouth.[226] Here, the name Free University and Experimental College are used interchangeably to describe a project which, while straddling our definitions, comes closer to being an experimental college. Here, a student-organized program consists of courses (eighteen last semester) designed and taught by undergraduates which seek to supplement the educational experience at Dartmouth. More than 700 people participated last semester — some from Dartmouth, some from the Hanover community, and others coming by bus from nearby schools. The courses ranged from the works of Velikovsky to the worlds of LSD and Tolkien, and were, in general, warmly received. As was noted, the Dartmouth Experimental College was neither meant to replace, nor to alter the normal curriculum. A statement of purpose expressed by one of the founders said "too often the Free Universities were only reacting against the established universities, their courses were too often providing only a narrow range of offbeat topics, and their teachers were too often being limited to disillusioned graduate students and instructors. Dartmouth seemed a natural place for a much more positive, more community-oriented approach to experimental education; with students in full command, organizing the programs, teaching the courses, and using their fraternities and dormitories for meetings."

This experiment differs from experimental colleges such as that of San Francisco state in that it does not seek to protest against and to affect direct change in the actual curricular structure. It is viewed more as an extra-curricular supplement. It differs from the Free Universities such as the one at Berkeley in that it is not politically oriented, it is more structured, and it is designed to supplement and not replace the normal education.

It is very difficult to measure the successes of these experimental schools and free universities. One measure used is that of interest and participation in the experiments. By this measure, the successes varied from fourteen hundred students at San Francisco State,[227] to seven hundred at Dartmouth,[228] to five hundred at Chapel Hill,[229] down to handfuls of students and teachers at various places across the country. At many colleges, however, the counter-institution had numerous participants but little impact, while at others the impact was far beyond what could be expected from the number of participants.

This leads us to another measure of success - that of impact. This can be viewed in three senses; the impact of each experiment on the individual participants, on the institution and area immediately surrounding it, and on American higher education in general.

Perhaps the greatest success of the counter institution is one which defies accurate measurement. This is the valuable educational experience gained by those who actually participated in these institutions. It is impossible to measure the value of this experience, and yet from reports that we have received, we feel that in many cases students have found the experience to be a valuable one.

The impact of the various experiments on the parent institutions and surrounding areas has varied almost as much as have their structures. The impact in certain cases has been easy to see; in others it may be presumed but is not easily demonstrated. In several cases there have been significant changes in the flexibility of the parent institution, such as in course structuring and organization. Provisions have been added which allow students to set up courses without having to get departmental approval. In other instances the methods by which curricular decisions are made have been altered, with students assuming a larger role in the determination of educational policy. The experiments have demonstrated the students' concern for and knowledge about educational policy, in many cases making their demands for a greater power seem more legitimate. The desire for a closer relationship between college and community shown by the experimenters has led to an increase in various types of community action. Whether these changes would have taken place without the presence of a counter institution is impossible to say.

Other impacts have been claimed but are even more difficult to document. These are the results which the experimental colleges have hoped for, and which

must take place if the experiments are to be truly successful. For example, the organization of these experiments may have helped students to understand how decisions are made and how they can be influenced. The experimental institution may also have influenced both faculty and students to re-evaluate their traditional roles and to make appropriate changes in their conduct at the parent institutions. Whether such changes as these have occurred, and whether faculty members now begin experimenting with or changing their methods, whether students now begin intelligently questioning instead of accepting blindly what is presented, whether the climate at an institution will now be revitalized, are hard questions to answer. These are effects that various free universities and experimental colleges claim to have generated, and we feel that in many instances they have done so.

Other impacts have varied too widely for even general descriptions. At some places such as Dartmouth, closer ties between the university and the surrounding community have developed. At places such as Houston, the constructive activism which had been lacking previously has been created.

Perhaps the most salient result on the parent institution has been the renewal of attempts by members of the parent institution to determine both why things are done at the institution and what are the goals of education — a kind of questioning which too often has been lost in the day-to-day issues of academic survival and administrative procedure that occupy much of the time of the educators and students.

The impact of the movement on higher education in general has been even more striking. It has helped to develop more confidence on the part of students in their ability to affect meaningful change and in their ability to participate in meaningful discussions of education. It has crystallized student complaints about education, and has provided constructive outlets for student enthusiasm in the area of education. Most importantly, it has shaken up the university complacency about education that characterized the fifties at most schools and has paved the way for other types of student-initiated reform. Thus we feel that we can say with confidence that it has represented the greatest movement in educational reform in this decade.

While granting these strengths and successes, we feel that there are a number of weaknesses and failings both within individual institutions and in the movement in general which should be pointed out.

One basic difficulty lies in the separation of the experimental institution from the formal institution. This separation is total in the case of the free universities as we define them, but the experimental colleges, too, are generally regarded as existing independent of, though with some ties to, the parent institution. The results of this separation are numerous. One effect of this separation has often

been to draw the critical energy and attention which had formerly been directed at the reforming of the parent institution to the experiment. Discontented students and faculty have retreated into the sanctuary of the experiments and, because of past frustrations in affecting change, have avoided the need for fundamental reform in the parent institution. Instead of facing the problems of how to get power and how to affect change within the parent institution, the participants have chosen the tactic of modification from without or modification by replacement — a tactic whose effectiveness, we believe, is limited when viewed in the scope of higher education today. We believe that change from without is always harder to obtain than change from within. This seems especially true in this case and is compounded by the fact that free universities and experimental colleges do not have the resources of the normal institution and thus have a distinct handicap.

Even more fundamentally, the initiators of the experiments have not escaped one of the main failings of the parent institutions. They have failed to analyze what assumptions about education are implied in their criticisms and demands, and to consider the validity of their own assumptions. This lack of a basic understanding of what they desire in an education combined with their failure to analyze the educational assumptions of the institutions they are seeking to change or replace has made it nearly impossible for the experimenters to improve the educational process as found in the parent institutions in any fundamental way. It has led to a failure of organization in the experimental institutions, for the organizers have been unable to see what procedures and methods would best implement their desires. In many cases this has caused an atmosphere of excitement, unsupported by any organization which can produce the desired results. This weakness has become apparent in many cases within a year or two and has proven fatal once the excitement has worn off. This tendency has been aggravated as more and more students simply adopt the rhetoric of the free university / experimental college movement, without the careful formations which marked the best of the original projects.

In many of the experiments pressures from the formal institution are constantly being felt. Attendance falls off severely as students feel the push for grades in their "formal" courses, particularly during exam period. The demands on a student's time have led to low attendance as well as to a lack of preparation on the part of the participants. The force of these pressures becomes more obvious if one remembers that the experimental programs are often just one small part of a larger system, often with aims and procedures completely opposite to those of the parent institution. It becomes apparent that if these experiments are to be totally successful, change has to be affected in more than one part of the larger

institutional complex. The entire system has to be altered or the experiment is relegated to an existence as a mere addendum, doomed to wither away.

Another problem has arisen in many of the experiments: the courses are not satisfying the participants. In many cases the classes are less than exciting. In the words of the April newsletter of the Free University of Berkeley, "Drop off in class attendance near the end of the session was partly due to conflict with University of California exam schedules, but ultimately people leave the classes because they are bored."[230] In many courses there is little worthwhile material presented, the discussion is rambling, and there is little real interchange among the participants.

There are several reasons cited for this. Some are basically structural. Some students have difficulty adjusting to systems which are radically different from what they are used to. This difficulty arises in leaderless discussions, situations where cooperative grading or no grading at all is used, et cetera. Students conditioned by twelve years of standard education find it difficult to understand how to make use of the freer system — what to expect from it and how to achieve the greatest benefits from its special qualities.

Other criticisms focus on the content of the courses. Rather than focus on values, methods, and conceptual frameworks of a discipline, some of the experiments have aims such as achieving psychic identity with the forces of nature, or bringing enjoyment to the students. While these goals are certainly appropriate in a university environment, they are not really what we feel are the central aims of education. It is our feeling that too often not enough thought and work is given to the educational planning of the experimental institution.

There have been still more problems. The experiments have drained resources — both in time and money — from other projects which the participants have felt are also desirable. In some situations there have been conflicts among the leadership in the experiments, often causing splits between the radical and more moderate student elements.

We owe a great deal to the people who began and developed the free university / experimental college movement. It is doubtful that this report and study would have proceeded without the example of some of these experiments, especially that at San Francisco State. They have crystallized many of the problems of higher education and have encouraged reforms which have at least indirectly affected our approach. They have helped legitimize the student role in educational policy discussions, have provided valuable educational experiences for many, and have attempted to provide models for a new form of higher education.

Yet, the problems that we have described lead us to reject the free university / experimental college alternatives for education at Brown. These counter

institutions do not have the resources or potential of the parent institutions for providing good education. Because they move in opposite directions from the parent institution they are forced to compete and either become absorbed or tend to wither away. More importantly, by cutting themselves off from the parent institution they have lost the opportunity to effect fundamental reforms on higher education; they can effect change only indirectly. In schools which are larger than Brown or at which reform in education within the normal channels is impossible, the free university or experimental college might provide the only alternative. However, at Brown this is not the case. While free universities such as that at Dartmouth — whose purposes are the supplementing rather than reforming of the existing curriculum — are valuable, they avoid the questions which are fundamental to us, those that deal with the forming of the curriculum and other academic structures.

We hope to affect fundamental changes at Brown through the normal processes of the university. This has led us to reject these alternatives which work outside the university, and which by doing so have minimized the possibility of fundamental change. While we will attempt to bring many of the examples and criticisms presented in this movement to bear on education at Brown, we reject the alternative of establishing a free university or experimental college at Brown.

14. OTHER CURRICULAR ALTERNATIVES

Another alternative which has been presented is the institution of a curriculum which includes general education courses. General education courses are common in many American universities; they are usually required or encouraged for all students, and take up most or all of the general education portion of the curriculum. They vary in structure and content, although in most cases they exist as Great Ideas, Western Civilization, or Great Works of Man courses which, in operation, transcend the departmental structures.[231] They also share a number of characteristics which may be used to define them, or to indicate their orientation and the general assumptions upon which they are founded. Our analysis of them is based on a brief study of twenty-one general education course programs described by Bell and Thomas.[232]

Perhaps the most basic similarity is found in the attempt to combat the fragmentation and compartmentalization of knowledge which is often found in departmental courses. It is felt by the advocates of general education courses that the distribution-concentration form of curriculum has failed to stop the trend towards fragmentation and compartmentalization of knowledge and narrow professionalism; it was hoped that courses which knew no disciplinary bounds would both help solve these problems, and at the same time, would enhance communication among disciplines. These aims have been manifested in different ways in each of the different general education programs. In some, the courses are team taught by members of different disciplines; in some, special committees made up of members of different disciplines are established to coordinate the programs, though the courses are each taught by only one professor; in some, interdisciplinary fellows are hired to teach these courses. In almost all cases, the subject matter for the courses cuts across departmental boundaries.

A second basic similarity among these programs is the emphasis on the Western tradition. Many of the founders of the courses felt that all students should share an understanding of the history, philosophy, and works of Western man. In some cases where these programs were established during or

immediately after the two world wars, an orientation towards Western and more specifically American and English culture was considered ideologically important.

A third similarity is based on the presentation to all students of a common body of material. This presentation is seen as a means of providing a common background to all studentsm, however different their backgrounds were before coming to the institution. This is seen as facilitating intellectual discussion and is readily linked with the emphasis on the residential college — a common background would enable students to carry on conversations about their academic work in their dormitories as well as in their classrooms.

A final similarity which reflects the desires of many educators is seen in the quest for a unity of knowledge. Many advocates of general education programs would agree with President Meiklejohn, who pointed out that it is impossible to talk about the unity of the curriculum without speaking of the unity of knowledge, adding that "the search for satisfactory principles to bring knowledge into some kind of unity is the insistent task of modern scholarship." He further stated that he was "not saying in advance what will be found, but trying to find the forms of unity which must be there if we can think at all."[233]

While sharing these basic characteristics, programs have proceeded in many diverse directions, taking forms too complex to describe here. We would recommend to the reader the descriptions in *The Reform of General Education* by Bell and *The Search for a Common Learning* by Thomas.

General education course programs are now on the decline both in numbers and in the opinions of educators. While in many instances this decline can be attributed to administrative problems, their failure lies much deeper — in the structure and content of the courses themselves, and even more importantly in the basic aims of the general education course programs.

Major structural failings can be discerned in general education courses at a number of institutions. Superficiality has characterized many of these courses. Tremendous amounts of knowledge were skimmed in a short period of time. Thus, courses on the history of Western civilization from its origins to the present have been given in one semester or one year. Such surveys have resulted in familiarity with names of great men and particular works of man but with little understanding of them. Such superficiality has led many students to feel that general education courses are too vague and too unsophisticated for today's complex world. Short on substance, they bear little relevance to life today and are viewed as being boring or trite.

Often developers of these courses have carefully organized knowledge on paper, but their presentation has become precisely the transmission of inert knowledge that we spoke of earlier. Because of the importance of the unity on

paper and the completion of that unity, it becomes very difficult for the professors to alter the courses to meet the needs of the students as they change from year to year.

Other structural and content problems have arisen in many institutions where the general education courses are in fact taken over by the department of the professor who teaches them. Thus, at some places, certain general education courses are used as prerequisites for departmental majors and actually function as introductory courses to a department, thus losing their identity as general education courses.

A number of problems have arisen with the teaching of these courses. Courses which were team taught by professors from different departments were characterized not only by superficiality but by fractionalization and fragmentation. The aim of having students exposed to the workings of different disciplines taught by professors in each discipline — for example, two weeks of psychology, two weeks of philosophy, two weeks of sociology, et cetera — has often prevented an understanding of any discipline, or of relationships between disciplines.

A general education course taught by one professor has different problems. Because these courses require exceptional ability and knowledge to teach, and are hard to develop, the same professors often teach them year after year. Some of the courses have succeeded, but only because of the "great men" who teach them. Eventually, however, even these courses tend to fail because the "great man" decides to leave them, or because the process of "routinzation of charisma"[234] described by Bell takes place and the course becomes stale — for both professor and student. Excellent examples of this are some of the general education courses centering on great ideas. The great ideas are often only great because of the interpretation attached to them by specific professors. When the professor leaves or becomes bored, the course falls apart. It is obvious that programs for an institution, no matter how prestigious, cannot be designed with the assumption that there will always be enough great men to teach the courses — often a necessity in general education courses.

Two other problems deserve mention. The interdisciplinary general education courses often have not carefully analyzed the amount of knowledge needed in each discipline in order to conduct or participate in the course in a meaningful manner. For this reason, students often become lost. Furthermore, subjects which often appeared to be ideal for non-disciplinary or interdisciplinary study turned out not to be conducive to such types of study.

Besides these difficulties in the structure and content of general education courses, we believe that there are basic weaknesses in the common aims and assumptions of the movement. As Bell says, "their rationale has become

enfeebled and the intellectual structure has lost its coherence."[235] A discussion of the common characteristics of these programs we mentioned earlier may further elucidate why we agree with Bell and have rejected this alternative.

The first characteristic, that of attempting to combat the fragmentation and compartmentalization of knowledge, is a noble aim and one which we feel is important. Yet, general education course programs have by and large failed to accomplish that aim, mainly because of the structural and content weaknesses that we have mentioned. The trend towards narrow professionalism has continued unabated even in schools that have utilized general education courses. Perhaps the main reason has been the failure of these courses — because of the problems that we have discussed — to provide meaningful alternatives to programs which accept fragmentation and compartmentalization of knowledge and narrow professionalism as necessary evils. At other schools, the departmentalization of the general education courses that we mentioned earlier has served to enfeeble this aim by undercutting the nature of the general education course programs.

The second characteristic, that of giving the students grounding in the Western tradition, suffers from a lack of vitality and meaningfulness. It remains rather questionable as to how one can ground students in the Western tradition in a sophisticated manner, in one semester or even one year. Further, it seems fair to assume that students at Brown today have a more complete grounding in Western tradition than students at other times and places, and that through whatever studies they pursue at college, they will gain an even better foundation. As an aim it has, as Bell says, become a rather parochial and meaningless one, and one which is hard to present in a coherent, non-superficial manner.[236] Hopefully the related provincial attitude of inculcating Western ideologies in students is one which can be overcome and not perpetuated. We would agree with Bell when he says that "what may be more important than a single tradition and a single past (for there are many traditions and many pasts) is to have the student accept the idea of tradition (and become part of its continuity) and the idea of the past (and relate himself to it)."[237]

The third common aim, that of increasing intellectual discussion by providing a common background through common material, is inadequate as an aim for several reasons. Increased intellectual discussion in dormitories has simply failed to materialize. Moreover, the emphasis on a selected common body of material tends to make the intellectual atmosphere of a campus even more homogeneous than it is normally. Another very telling criticism of this aim is given by Daniel Bell:

> The trouble with these approaches lies in the idea that a few works can define the central range of human issues and experiences, and that if individuals are exploring great emotional and imaginative themes, in order to achieve a common ground of discourse, they all have to read the same works. An intellectual community is not necessarily defined by similar readings and a common fund of allusions (though this makes discourse easier) but rather by common standards and values that permit the interchange of judgements and opinions on diverse matters of experience.[238]

We also feel that requiring students to engage in study of the same material often does not take enough cognizance of individual differences. Finally — as has been pointed out previously — selecting material which is so important that all students should have it is difficult, if not impossible.

We do agree that some type of common learning is desirable, but we feel that a common learning which emphasizes common facts or material does little good. What should constitute common learning are the various approaches to knowledge and phenomena. The concepts and methods which man has used in approaching knowledge and phenomena and the underlying values in them should be learned in common. When these are learned in common, people can communicate effectively, even if they have not read the same material. Learning to learn, as we have described it in the development of intellect, should become the common learning of the general education portion of the undergraduate curriculum.

The final aspect of general education courses which we discussed was that of attempting to provide for a unity of knowledge. While we can see the value and need for a meaningful unity, we must agree with criticisms of the Classical and Metaphysical unities which we have seen presented.[239] Because of this and because we have been brought up in an environment which looks skeptically upon the idea of a unity of knowledge, we cannot but feel that such an aim has little relevance for today. Moreover, it would only be beneficial for the university to have such a unity of knowledge at the center of its curriculum if the faculty could all agree on it — a rather remote possibility. We feel that until we can be presented with some meaningful unity of knowledge, we must reject this aim of general education courses.

Thus, because of administrative problems and because of weaknesses in the structure, content, and aims of the general education course programs, we have rejected this alternative to the present curriculum at Brown.

Another curricular alternative closely tied to the general education program is the Great Books Curriculum, which owes much of its force to its originator, Robert Hutchins.[240] While this curriculum has less impact today than in the 1930's, it is still in effect at a few institutions, notably St. John's in Annapolis. The program is based on the unity of all knowledge — not the classical theological unity, which it rejects because such a theological unity is dead in our time, but a metaphysical unity based on the great ideas of man as revealed in his great works. Advocates of such a curriculum argue that by confronting the great metaphysical problems of mankind through the great books, one will become educated.

A careful look at this alternative reveals numerous inadequacies. The Great Books curriculum neglects the individual and his particular needs by providing a completely fixed curriculum. In justifying this, Hutchins declares that educators have no right to purport to be educating unless they have something definite to teach, and that the elective principle ignores this.[241] We feel that this commentary totally misses the point of individual-centered education as we have presented it. To maintain that there is a set group of books which should be presented to every student — no matter what their needs and concerns — does not give adequate attention to the individual. It results rather in the presentation of dead knowledge and in abstract study — which, as Whitehead points out, cannot contribute in the long run to the developing of intellect.[242]

There are other problems with the Great Books curriculum. As Becker points out, "how can the past be studied without the present as a locus."[243] Unless the study of material is applied to the present day and to present situations and concerns, it cannot allow for utilization of knowledge. Becker continues, "The unity of knowledge in each age has to spring from its own unique cultural condition. . . . Each of the writers of the great books was very much concerned and caught up in his times and we should do the same."[244] For this reason, we feel that the great books should be used and studied, but they should not be the sole focus for higher education, for the context in which one studies is directly relevant to the meaningfulness of the study. Aside from these reasons, many of the same arguments which led us away from the general education program, as well as the problems of administering the Great Books curriculum and the dangers of homogeneity and isolation which it may cause, have led us to reject this alternative.

The next alternatives which we have examined are those associated with Alfred North Whitehead and Daniel Bell.[245] While we have adopted many of their ideas in developing this paper, we have rejected the specific curricular alternatives which have been associated with them.

Whitehead's principles for education pervade this whole report, but we feel that the curricular techniques associated with him — of introducing a student into specialization immediately upon entrance to a university and developing him as a scholar in that discipline — is not a viable alternative at Brown. Whitehead believes that students entering college are in need of concrete material to focus upon and that, at the same time, by immediately obtaining a thorough grasp of a particular approach to knowledge, the student will be better able to broaden and integrate later. According to Whitehead, only through immediately attempting to master one area can one hope to avoid the amateurish superficiality and the jack-of-all-trades master-of-none approach of many students, which prevents a student from becoming a professional in the fullest sense of the word. It should be emphasized that Whitehead and others who support this technique are well aware of the dangers of narrow professionalism and do not intend to let this early specialization become narrowly professional. Because the early specialization is not an end in itself, and because it does not seek professional competence, but rather a concreteness which will facilitate the attaining of a wider scope and understanding, it is felt that narrow professionalism can be avoided.

Our objections to this alternative spring from our view of the realities of the present situation in higher education. First, we feel that, the thoroughness that Whitehead refers to is, as we have already pointed out, impossible to obtain. Second, we feel that the nature of specialization today would require students to concentrate on a very narrow area in order to obtain concreteness — not in one discipline, as Whitehead desired, but rather in one facet of a discipline.

Our most important consideration in rejecting this alternative springs from the realities of the University today, which we have discussed and which we feel would cause early specialization to fail to accomplish the desired ends. We have already described the state of concentration at Brown University today, that of aiming at professional competence as a goal. We have discussed at length the increase in narrow professionalism and its manifestations in programs of specialization. We have discussed the future orientation of students which often equates undergraduate education with professional training and which places future professional emphasis on the concentration. All of these realities make us believe that early specialization would only aid the narrow professional tracking which Whitehead and we both dislike.

Whitehead's ideas were developed in a different context from that of today's American university. Students graduating from high schools in America today have different preparation and, more importantly, different attitudes from the students who accompanied Whitehead to school at Oxford and Cambridge. It might have been possible to use early specialization for the purposes desired by Whitehead in that case, but we do not feel that it would work now. Further,

Whitehead's idea in this case springs from his theories on the rhythm of education which would require substantially different education in the elementary and secondary schools than is presently the case.

We are sympathetic with Whitehead's ideas and feel that under different circumstances they would be best. We are especially attuned to the need for concreteness, and we shall employ it in our proposals. However, given the realities of the American university in the 60's, specifically Brown, we do not feel that Whitehead's curricular proposals are applicable either to carry out his aim or to carry out ours (which the reader will have noticed are in many ways akin to his). Our final reason for not accepting this alternative is that we feel that adoption of Whitehead's proposal in this case would cause students to miss what we feel is a very important part of the curriculum, that devoted to general education; we are not ready to give up on the possibility of this portion of the curriculum being conducted successfully.

Daniel Bell's curricular proposals are very difficult to express in so short a space. To do him more justice, we would recommend reading his book. However, with apologies to him, we will attempt to present a brief description of his curricular proposals and then to state our reasons for not accepting all of them for Brown.

Bell differentiates four parts of the curriculum: the provision for history and tradition, the introduction to a discipline, the extension of the discipline to subjects, and the third tier. The first part of his proposal consists of a set of general education courses which provide a detailed "discovery . . . of the history and traditions of Western Civilization, the awareness of the great works of moral imagination and science, the basic processes of social change, the great intellectual movements of self-conscious reflection, and ideas on the events of change."[246] The second two portions involve concept-oriented introductions to a discipline of concentration and actual concentration in a particular field. These two parts of the curriculum would involve learning the tools of a discipline and their application to specific areas of subject matter.

The third tier courses, which serve to round out the college experience, constitute the synoptic portion of Bell's curriculum. They are designed to have a twofold purpose: "to deal with the methodological and philosophical (and, in the case of the social sciences, historical) presuppositions of a field; [and] to show the application of the discipline to general problems, or to issues requiring a multi-disciplinary approach, in order to test the operation of the discipline in a wider context."[247] These courses are designed to fight the narrow professionalism which is so often a part of concentration, to "explore interrelated issues between disciplines, to try to create a philosophical sophistication about the foundations of the fields [of concentration], and to raise, where possible, value problems in the

application of a discipline."[248] Bell believes that these third tier courses should come in the final stages of concentration and would be required for seniors. In this way, Bell feels that students will already have the concrete background which Whitehead describes, from which to expand outward in their discipline. Bell feels that this stage will aid in what he sees as one of the main purposes of education, the mastery of a discipline.[249]

Bell hopes that this entire curricular pattern will provide for groundings in the Western tradition and history, for the development of an appreciation of conceptual analysis, for intensive work in a particular area, for the mastering of a discipline, and in general, for the development of true professionals as discussed by Whitehead and Ortega.

While we have adopted many of Bell's ideas, we have rejected his specific curricular pattern for a few reasons. Our first criticism is aimed at the general education courses proposed by Bell for the freshman year and the first semester of the sophomore year. We have already indicated what we consider to be the failings of such courses. We feel that it would be impossible to fulfill all of the purposes that Bell expressed for this segment of the curriculum in this type of course. To this criticism, we must add the lack of the tradition of such courses at Brown. At Columbia, where Bell's attention is centered, they have existed for many years and thus would require reform — not initiation, as they would require at Brown. This would not prevent us from suggesting the alternative if we were convinced that it was desirable. More important than this consideration, however, is our feeling that such courses would suffer from all the difficulties which we have mentioned earlier. It is also our belief that an introduction to Western Civilization through a series of general education courses is not the best way to achieve a grounding in history and tradition. We are surprised that Bell, who contributed significantly to our criticism of general education courses, proposes this as a segment of his curriculum.

Our major criticism of Bell's curriculum is the lack of consideration for the individual student as shown by the lack of flexibility. The four stages of the curriculum form a fairly rigid structure, the first year and a half being taken up with the general education courses, the fourth semester being composed of an introduction to disciplines, the third year being devoted to concentration, and the fourth year being devoted to the completion of concentration, including required third tier courses. The general education course requirements in tradition and history could prevent a student from continuing to pursue some earlier interest during his freshman year. This would include science students for whom continuity from work in high school might be very important. The curricular structure also does not leave much time for the selection of a concentration. The student must begin in the fourth semester or at the latest in the fifth, having had

only a few free courses to explore different areas before choosing one for concentration. The concentration itself will be by necessity limited, and this may not be to the best benefit of some students who wish and need a more extensive concentration. Further, all of the concentration courses are crowded into a relatively small period of time, which may make the junior and senior years very restrictive. Also, even though Bell makes provision for any student who wishes to be able to take a third tier course, it will be difficult for underclassmen to have time to do so, given their extensive requirements. Finally, we feel that it is excessively rigid to require third tier seminars in the senior year.

We feel that a curriculum must strive for as much flexibility as possible, and we feel that the relative flexibility at Brown now is a very valuable characteristic of the curriculum, and one which we do not wish to sacrifice. Various students are at different stages of development at different times; this must be recognized when constructing a curriculum. A curriculum does not necessarily lose its intellectual unity and purpose by being flexible, just as it does not necessarily gain that order and unity by being rigid.

Another criticism that we have of Bell's curriculum is the small amount of time provided for courses which will ground the students in the central methods and concepts of a disciplinary area. We do not feel that the second semester of the sophomore year will be an adequate amount of time to carry out all of the aims that Bell has for these courses. Because these courses are left to the departments, we feel that it is far more likely that they will turn out to be merely introductory courses to departments and will lack the broad conceptual emphasis that Bell considers essential.

A final reason for our rejection of Bell's curricular proposals as specifically stated originates from our feeling that there is more potential in his idea of third tier courses than he provides for. We feel that these courses should be broadened in scope and in usage in the curriculum. As will be evident later, we utilize many of the particular structures of Bell's proposals in carrying out the aims which we have stated previously. However, for the reasons stated above, we do not accept his entire curricular proposal.

We owe both Whitehead and Bell a great deal. They have significantly contributed to the shaping of our ideas on curricula, and we hope that the reader of this paper will also read their works. In presenting these criticisms and reasons for not accepting their specific curricular proposals, we are not rejecting their ideas on education but rather only a small part of their specific proposals.

Another curricular alternative which we faced was that of professional or vocational training. It should be apparent from the philosophy of education which we outlined that we do not feel that this should be the focus of an undergraduate liberal arts education. We would like to emphasize, however, that

this type of education should not be considered valueless and should not be considered less prestigious than a liberal arts education. It is relevant to the needs and desires of many students, and forcing those students to attend a liberal arts institution because it is more prestigious does a disservice both to the student and to the institution. Although we must reject this alternative for a liberal arts curriculum, we feel that it might be desirable for universities to consider establishing undergraduate professional schools to meed the needs and desires of talented students who desire this type of education.

Another curricular alternative made famous at Antioch and Benninton is the work study program.[250] During alternate semesters or tri-semesters, students leave the campus to go work. The work period allows the student to relax from the pressures of the academic world; allows him to utilize the knowledge that he learns in school; keeps students in touch with the real world around them; decreases the harmful isolation from society that many students feel; and increases the chances that the student will learn to consider education as a total part of his life for the rest of his life.

We feel that a number of comments must be made about this type of curriculum. First, it does not resolve the problem of what should take place while the student is on-campus. Second, the work-study curriculum too often encourages the directing of education towards professional goals. The work which he will do begins to dominate the student's education. Finally, the arrangement is not uniformly successful. For some students the work-study program brings a discontinuity to their education; for others the break is beneficial. The important point is that scheduling a specific period away from school formalizes the distinction between the university and the society. Further, it structures a break in the academic procedure even when that break scheduled at that time might not be in the best interest of many of the students at the institution. What might be more beneficial would be a system which would encourage the student to take time off for work — or for any other reason — but which did not schedule the breaks for all into a particular period of time. More of the benefits of the work-study could then be present, and more consideration could be given to the individual's needs and desires. We will have more to say on this later, but until there is some idea for change in the academic parts of work-study curricula and until there is a more complete review of the work-study program and its professional implications, we must set it aside as not being a helpful remedy.

Another alternative, which does not seek to alter the total curriculum but is put forth as an aid to the revamping of curricula, is requiring of students in the senior year either to take courses outside of their field of concentration or to take integrative seminars which relate their field to other areas of human endeavor.

While we feel that such a requirement can aid in the process of integration and can help to combat narrow professionalism in concentration, we believe that such programs are of limited value. One course or seminar in the senior year, alone, cannot accomplish the desired end of integration or broadening of experience. Moreover, we feel that integration is a process which should be occurring continually. It would be too artificial if it were reserved for one or two seminars in the senior year. While we disagree with Ducasse's alternative on integration, we do feel that some structuring of integration is possible and necessary,[251] and we must agree with him that integration should be going on throughout the college experience. We also do not believe that integration as we would use the term is solely a matter of integration of subject material. It involves the individual, who must integrate what he learns into his very being. Since providing one or two senior seminars will not solve or facilitate this, we feel that it is not worth the effort to institute.

As we have rejected all of these other alternatives, it might be argued that the best possible curricular arrangement is a distribution-concentration form of curriculum, such as we now have. Advocates of this arrangement would, however, admit that substantial revisions might be made. Some have said that we should return to the system of the Ducasse report. Others have said that if we could get the departments to return to the original purposes of distribution in their courses, that this would be best. It is our belief that there are some intrinsic weaknesses in such a system, because of which attempting to revamp it at Brown would be not the best alternative.

Many of the reasons for this can be seen in our analysis of the present Brown curriculum — one of the most well devised distribution-concentration systems in the country. Daniel Bell has expressed more of our feelings about such a system in the following statement:

> The disenchantment of many colleges . . . with the idea of general education and their difficulties in recruiting teachers for the courses have led a number of them to substitute distribution requirements for the general education sequences; and this has brought them back to the very disorder that had prompted the widespread adoption of general education in the mid 1940's and 1950's.
>
> A "distribution" requirement means that a student has a free option in the number of courses outside of his major subject or concentration. Thus a science major might be required to take at least two social science and two humanities courses. No specific

> courses are stipulated or prescribed. Nor is there any ordered sequence arrangement of courses. It is simply assumed that a student's education is broadened by some courses in other fields than his own. Ironically, a number of "educational radicals" once fiercely opposed to what they called the cafeteria system are now enthusiastically in favor of the laissez-faire arrangements on the grounds that students should be encouraged to prowl around on their own, taking any courses that intrigue them, and that a distribution requirement is as good a way as any of shaking up the creaking system because it shows the faculty what students really want.
>
> The return to a distribution system is, I believe, an admission of defeat. At worst it serves up a mishmash of courses that are only superficially connected. At the very worst, it stimulates a modishness that caters to the immediate and the sensational, or that looks for esoteric or gnostic links because the ordinary cannons of intellectual order are too repressive. . . . [A]narchy without intellectual order is perversity (and intellectual order without freedom is dogmatism).[252]

As Bell points out, the distribution system assumes that if students take courses in a wide range of disciplines, they will receive a liberal education. Yet, too often contact with different fields does little to broaden one's abilities or outlook; there is little mental participation in them, and one learns to think along different narrow lines rather than to think broadly. The possibilities for coherence are hindered by the structure. We would agree with a paraphrase by Thomas of statements by Presidents Wilson and Harper, who both felt that liberal education is not the sum of a number of discrete parts, but rather the power to discern the interrelationships of parts within and without a student's area of concentration.[253] We feel that distribution structures provide for the former and not for the idea of liberal education which we subscribe to. As M. L. Burton, president of the University of Michigan, pointed out in 1965, the distributional system "had failed to solve the defects of the elective principle and the weight of undue specialization. Fragmented knowledge was presented to the student by departmentalized faculty, with no conscious endeavor on its part to unify or correlate the field of knowledge."[254]

We agree with this appraisal, and we are forced to agree with Dean Morse when he said that it may be impossible for departments to form courses which will satisfy the avowed purposes of distribution requirements.[255] This criticism is

elucidated in the following statement by Thomas in describing the failure of some distribution-concentration programs:

> In some areas the courses from which students are obliged to choose were in fact designed for those who planned to concentrate in the field, and little consideration was given to the needs of other students. The plan also assumed that courses designed by departments for departmental interests would provide a sufficiently comprehensive knowledge of methods to permit the student to employ them independently in the study of related fields. Experience did not support this assumption. Although distributional requirements did give assurance of a greater breadth of intellectual experience than many students might have secured under the free elective system, the latitude of choice in any area was often so wide that the curriculum seemed in fact to differ very little from the [free elective] system it sought to replace.[256]

These commentaries, along with our evaluation of twenty years of attempting to make such a curriculum work at Brown, lead us to feel that perhaps it has inherent weaknesses which will not be overcome.

One attempt to alleviate one aspect of this criticism of distribution programs is the establishment of tracking. Recognizing the fact that in most disciplines it is very difficult to develop both concentrators and distributors well in the same course, different courses on the introductory level — some for distributors and some for concentrators — have been established at many schools, notably at Columbia.[257] While this allows the pursuit of the differing aims of distribution and concentration, it raises numerous problems. First, it forces early straight jacketing and decision making on the part of students and thus forces what under present circumstances could be harmful early specialization. Second, it is very expensive. Third, less emphasis is almost always put on the non-majors courses by the departments. Fourth, it does not help the fragmentation of knowledge and does not reduce the incoherence and narrow professionalism in the distribution courses or the concentration courses. Thus, we do not feel that this provides a valuable alternative.

Because of these inherent weaknesses in the distribution-concentration system, we believe that the idea of merely altering this system is not the best possible alternative to correct the problems which we have noted in the Brown curriculum and to make worthwhile improvements.

We have certainly not exhausted the possible alternatives to the present curriculum. We have presented what we consider some of the more important ones in order to help clarify and set a context for our proposals. We have felt also that because of the nature of a working paper, as many alternatives as possible should be presented for discussion. We have dealt with these alternatives to the best of our ability, given our limited knowledge of them and our limited time. We hope that the discussion has proven useful. We will now proceed to a presentation of our specific curricular proposals.

15. PROPOSALS FOR CURRICULUM I

In this section, we will attempt to develop a curriculum, a set of guidelines for education at Brown University which will carry out the aims for education which we discussed earlier. What we have said about curricula in the past sections should be kept in mind for it serves as a context to our proposals.

It is difficult for us to create curricular patterns because according to our philosophy of education, education should be fundamentally an individually oriented process. Yet we do feel that undergraduate education can proceed in a significantly better manner if there are patterns, and that patterns can be established which will be broad enough to benefit most students. It must be made clear, however, that the patterns which we are recommending should be flexible ones which can be adapted to meet the needs and abilities of any student who is not being adequately aided by the general patterns.

We realize that very often the key to successful education is the professor. A good professor can provide a fine education even teaching in the worst curriculum; a poor professor will hamper the educational process even under the best curriculum. We also realize that education can take place anywhere; it is not limited to the classroom. However, in establishing a curriculum, we are assuming that classroom experiences can be structured so as to contribute to the education of students in significant ways, that a good curriculum will help support good teaching and that there is a greater chance for good education if there is a good curriculum. The curricular structure also contributes to the total educational environment — not just to classroom education.

We will deal only with the curriculum in this section. Obviously, the curriculum is tied to other structures of the university, such as grading, testing, and teaching methods. We will deal with these structures and their interrelationships later.

The curriculum as we envision it serves primarily to fulfill two of our educational aims. These are the developing of intellect and the elimination of narrow professionalism. Other aims, such as encouraging self-realization and

focusing the education on the individual must be kept in mind as curriculum is planned, but cannot be logically tied to curricular structures. As we proceed we will try to show how each portion of the curriculum can serve more specifically to fulfill these aims.

Our suggestions for the curriculum take the form of outlines to be followed in the creation of courses. The types of courses we propose for the curriculum are the *Freshman Course*, the *Departmental Course*, the *Third Tier Course*, the *Group Independent Study*, and the *Independent Study*.

The freshman course, as the name suggests, is for freshmen. We believe that freshmen are in a unique position in the university. Without going into great detail we will only note that they are inculcated with certain educational values while lacking others, making them quite unprepared for the undergraduate education we are proposing. They must be reoriented in their approaches to education; they need special preparation for and extra attention in this process. Because of this, we feel that different courses are needed for freshmen than for upperclassmen.

This unique position of freshmen has been noted and dealt with in various ways by educators, yet as Sanford says, "[i]t is in the freshman year that the failures of today's curricula are most glaring. Freshman arrive on campus, typically filled with enthusiasm, with eager anticipation of the intellectual experiences they are about to have. By the end of the year 10% have dropped out and a large proportion are ready for what in the Eastern Colleges is known as the sophomore slump."[258] Sanford criticizes not only the atmosphere of the colleges which contribute to this deadening of enthusiasm, but also the curricula. While attacking the curricula now in use he states, "We are speaking here of course of the common or traditional type of curricula, drawn up with a minimum of attention to how students learn, but with a maximum concern with how knowledge may be organized on paper and, of course, with due concern for the rights and privileges of the departments."[259]

We believe that freshmen need a special curriculum made up of special courses which will take into account their specific needs, one which will help reorient them, which will not deaden enthusiasm, and which will help carry out the aims of education.

The freshmen courses should be concerned primarily with an understanding of the values infusing inquiry, and of the centralities of method and conceptual frameworks in approaches to knowledge and phenomena. To facilitate this, we utilize four basic areas which can serve to provide as divisions in approaches to knowledge and phenomena. These areas are the humanities, the social studies, the sciences, and formal mathematics. Courses will be provided in these areas which will study the values infusing types of inquiry and the central methods

and conceptual frameworks used in approaching knowledge and phenomena in the area, and which will demonstrate and utilize these methods and concepts.

We differentiate the humanities as Morris does: as an appreciation for approaches to arts, to man's aesthetic nature, to the spiritual and emotional man, and to those aspects of the intellect in sympathy with these. The social studies area would include problems related to man as a social animal and to the societies that he builds, and the modes of thought which have been used to study these. The third area, that of science, we consider to include both empirical and theoretical aspects of scientific approach. The final area, we will define as does Ducasse, as pertaining to mathematics and formal logic in the construction of abstract systems and approaches to knowledge where verification plays no part. These are obviously not the only divisions of approaches to knowledge which can be made but we feel that they are defensible given the realities of the knowledge in today's university and helpful given our aims for the freshman courses.

The divisions are deliberately vague for we are not attempting any strict division of approaches to knowledge into disciplines as did Lowell, Wriston, and Ducasse;[260] such a strict division is, for our purposes, unnecessary. Different professors in the same department will feel that their subject matter and methods would place them in different areas. The overlap between areas in regards to values, subject matter, methods and conceptual frameworks is obvious but we feel that clear general distinctions do exist. For example, many of the social studies have adopted methods which are similar to methods of science. Yet the seemingly similar methodology and the values which infuse it change at least slightly because of the subject matter. By analyzing these similarities separately, a clearer understanding of the differences between areas will result, rather than merely duplication of effort.

There are numerous other reasons for providing these large divisions. The larger areas allow for a wider comparison of the central methods and conceptual framework, and for a wider perspective from which to view the values that infuse inquiry. They also serve to prevent the fragmentation of knowledge and the narrow professionalization of approach, which are too often characteristic of the distribution courses organized by departments. Finally, the large divisions serve to break down the angular and professional provincialisms which result from the narrow viewing of a subject.

The freshman course shall be marked by the following:

1. Courses in the humanities, social studies, and sciences will be one year long; courses in mathematics will be one semester long. We feel that a full year is necessary in the first three areas, to accomplish the aims we have described without undue time pressure. In the area of mathematics, we feel that one

semester will be sufficient; more than one semester's work in this area would require greater technical competence than many students have.

2. There will be about twenty-two courses given in each area, each differing from the others in subject matter and professors. This will allow students to have a great deal of freedom and choice and will in most cases provide for small classes. The mathematics courses are designed differently and will be discussed later.

3. The actual structure of the course may vary, but in most cases the course will be taught jointly by two professors who are from different departments within the area, who will work together to plan the course. This should be flexible enough to allow variations such as having more or fewer professors, or having one professor teach the first semester while the other teaches the second semester. The main reason for having more than one professor is to avoid the course's taking on departmental perspective. Too often, as we noted in our analysis of general education programs, interdisciplinary courses taught by one professor have resulted in the presentation of his department's values, methods and biases. The difficulties involved in having two people work together are worth bearing in order to avoid this narrow professionalism. We have settled on the number two because experience has shown that while it is hard for two professors to work together and present a coherent course, using more than two usually results in fragmentation and a lack of coherence. While these arrangements should be flexible, what should be kept in mind are the avoidance of departmental orientation and professionalism, the emphasis on coherence, and the maintenance of small classes, perhaps a 1 to 20 faculty student ratio.

4. The courses will be mandatory for all freshmen although in keeping with our view of the individual as center there will be allowances made for cases in which this is not beneficial to the particular student. The reason for the requirement is that these courses will be instrumental in orienting the students away from their high school education and towards the educational philosophy which we have set forth and which will be found in the structures that we are recommending. Because these aims are radically different from those found in high schools today most students will be unfamiliar with them. Thus, students should not be exempted from these courses because they have AP credit or because they want to proceed with their major. If, however, a student does not need this reorientation, and if he does not need nor will not benefit from the structure and conceptual orientation courses, an individual program should be worked out. We feel, however, that this type of freshman course will be valuable in the majority of cases.

5. Close contact between professor and teaching assistants, and students should be part of these courses because it is during the freshman year that

students in general need the most help in their education. As a student progresses through Brown, he should become steadily more independent in his ability to learn. Obviously there will be freshmen who will be more independent in learning than seniors but we feel that the need for assistance is the general rule.

6. Courses will vary in professor and subject matter, and will operate differently depending upon the students, the professors, the subject matter, and the orientation. To enhance the flexibility of these courses, administrative requirements such as scheduling will be kept at a minimum. Provisions will also be made for course switching in cases where a specific student is not benefiting. We will make suggestions later for how these administrative details might be worked out.

With these general characteristics in mind, we will now proceed to describe general aspects of freshman courses in each area as we envision them. It will be up to the faculty and students in a course to fill in the details in these outlines. We feel that general outlines of courses which will allow the participants in a course to put as much of themselves into it as possible is most desirable for a curriculum.

Our main desire, it should be remembered, is to fulfill the aims which we set forth earlier, specifically the reorientation towards and development in the understanding and appreciation of values, concepts, and central methods in approaches to knowledge and phenomena. We feel that these guidelines will help fulfill the aims, but if they do not, they will have to be adapted.

The introductory course in the humanities must overcome many initial problems. For many high-school students, reading a poem or a novel, which are often their only exposure to the humanities, are merely exercises in puzzle solving or cryptography. To overcome this orientation, to more fully acquaint the students with the humanities, the course will begin with a discussion of the meaning of inquiry in the humanities. The course might consider the various ways of approaching knowledge and phenomena in the humanities, what approaches lend themselves to this area, what are their strengths and weaknesses, what is the place of criticism and analysis, and what is humanly relevant about the study of art, music and literature. In its simplest formulation, such a discussion would be more concerned with "how a poem means" rather than with the normal "what a poem means."

It is our belief that the best way of approaching this would be to build the course around themes in the humanities — perhaps only one, no more than a few during the year. Examples of the themes could be "death," "love," and "alienation." Works of art, music, and literature centered around the theme might be presented and then dealt with showing how the theme might be studied, felt, and understood.

The theme, method of approach, and content, of the course would vary a great deal, depending on the professor and the students. For this reason it is hard to be specific, but certain things might be noted. The personal experiences, needs and interests of the students and faculty members should be involved wherever possible. Creative work — such as painting, composing, writing, acting — could be undertaken if appropriate in the nature of the course. Opportunities for independent reflection might be provided. Emphasis should not be placed only on the Western tradition or on the new or the old; materials from different time periods and different cultures might well be introduced, reflecting different ways of dealing with the theme being studied. Finally it should be made clear that the amount of material covered need not be enormous. It should be ludicrous to suppose that even when restricted to the single topic of "death" that this course could "cover" what the humanities can tell us about death. Rather ways of approaching the theme and ways people have approached the theme would be central.

For this reason success in the course should not be evaluated on the covering of a body of material or even on the understanding of the theme. In evaluating success, the aims of the course should be kept in mind. The overcoming of provincialisms; the understanding of values, central methods and conceptual frameworks; and the increase in human relevance; are what is sought. Success would then have to be understood along the lines of individual discoveries within these aims. It is our belief that the use of a theme will increase the probability of success by allowing a variety of approaches to be used on a body of material outside the tight restrictions of a particular discipline, thereby breaking down narrow professionalism. If the themes are chosen carefully, it will also increase the chances of the areas being relevant to the students in the course.

The introductory course in the social studies will be a problem centered course. It should begin with a discussion of the value presuppositions involved in any study of man as a social animal, and of the society which he creates. This discussion should emphasize the various approaches, methods, and conceptual frameworks used, and their basic limitations and strengths.

The course should them proceed to the study of a historical problem, such as American involvement in World War I, the growth of anti-intellectualism in early American Society, or the revolutions of 1848. The values of beginning with a historical problem are several. In a sense, the historical perspective allows for a more complete view of the problem. As Bell describes the use of history that we are proposing, "this is not history as historiography, or what successive historians have written (though this is relevant for the sociology of historical problems). Nor is it an effort to read 'lessons from the past' for the purposes of the present. It is an effort, as one objective, to see history as the efforts of societies to deal with some

recurrent problems of social order, and as a second objective, the presentation to the student of the principles of historical explanation and the nature of evidence, as ways of understanding basic social processes." By studying a problem such as American involvement in World War I in terms of the economic factors, the social movements or the political maneuverings involved, the student can gain an appreciation for the working of human forces — a working not restricted to that time or that situation. Using the history and factual material of the problem as a base, methods and conceptual frameworks can be utilized, and their values considered. Finally, utilizing a historical problem could help to overcome a temporal provincialism.

While an understanding of the particular historical problem would certainly develop, this is not the aim of the study. Because of this, factual background would be presented only in so far as it provided a better understanding of the central methods and conceptual frameworks used in study, which will enable the student to undertake studies of other problems. Thus the "skill" of regurgitating would also be discouraged, much as it has been at railroad terminals, pool halls, and bar rooms.

After a problem study of this type, the students should be encouraged to deal with some historical or current problems of particular interest to them. This would allow them to utilize the methods and concepts which they have just learned on problems relevant to them, and would encourage them to challenge these methods and concepts seeking out others in the process.

In a variation of this approach, a single problem that has troubled mankind for centuries — like revolution or economic depression — could be the focus. The emphasis in such a course would not be to account for every revolution or depression in man's history, but rather to use these problem areas and a few examples of each describing the various types of inquiry in the social studies. These courses could also proceed to a study of specific examples of these problems which are relevant to the individual students such as the Red Guard Revolution, or the depression of 1929. Again, as in the other social studies courses, the main emphasis is on an understanding of values, central methods and conceptual frameworks in the social studies. The problem-centered courses will also seek to increase the relevancy of education, and to break down both the compartmentalization of knowledge and narrow professionalism in the same ways as the theme centered courses in the humanities. As in the humanities, there will be roughly twenty-two courses with different professors, different problems, and different methods and concepts emphasized. A problem centered approach will also be valuable in allowing for the digestion of an ample amount of factual material on the subject in a relatively short period of time and thereby for a depth

which is valuable for the communication and utilization of concepts and methods.

The Freshman courses in the sciences will be required of all those students not initially wishing to concentrate in what might now be considered a ScB program. (We will discuss the reasons for not requiring it of these students later.) This year long introductory course is especially important. Students who are not in the sciences too often have little or no understanding of what inquiry in the sciences consists of. Many non-science majors have not taken a science course since high school biology, and that probably consisted of memorizing facts which have long since been forgotten. Too often introductory courses in science for non-majors in college also present series of facts. In a society which relies so heavily on scientific values and methods, the resulting ignorance creates an unfortunate situation. Such ignorance of the ways of science may lead to either an *a priori* anti-scientific bias, a misuse of science, or a scientific-hero worship — none of which is a particularly desirable condition. We feel, therefore, that it is most important that some understanding of the value and the central methods and concepts used in the sciences and their strengths and limitations should be explored by students.

Because of the variation in the ability of students to deal with the scientific approach, we will differentiate three different types of students. Obviously, many students will straddle these divisions.

The first is a freshman who had one or two high school science courses and is definitely not interested in study in the sciences. For him a course subordinating facts to methodology and philosophy is essential. Principles, theories and methods, and the ways that they are used, should be stressed and mathematical manipulations should be kept to a minimum, for most students in the course will not be able to perform advanced mathematical work.

An example of a type of course for this group of students is a course emphasizing the continuity of all science. It might begin with a conceptual explanation of current views on atomic structure, stressing the physical principles involved. Having been introduced to the physical laws governing motion, and electromagnetic theory, the student can then proceed to examine how atoms interact and form molecules. The nature of chemical processes can here be elucidated, with perhaps some individual experimentation. The student should not be required to describe his findings in an elaborate laboratory report, but rather to demonstrate the processes he is investigating. (It must be remembered that these students are not scientists, but rather just interested participants in a fields of study.) Once the principles of chemical processes are understood in this context, their applications to the workings of biological systems could be introduced. Osmosis, cellular functions, and the role of RNA and DNA in genetic theory might follow. Other aspects of science such as physiology could then be

dealt with, but only as they are shown to be outgrowths of more elemental building blocks.

The rhythm of the course is very important. Science should be revealed as an ever widening application of fundamental principles, a continuous whole rather than patchworks of vaguely associated disciplines. The methods and concepts of science should be seen as unifying forces and should be the mainstay of the course. If this unity among all areas of science is not presented, the course will not have a maximum effect. The course will fail if a physics professor teaches the initial sections of the course as a physics course, and a biology professor teaches the biology portion of the course as the be-all and end-all of science. The importance of the course is not in the transfer of knowledge and facts of the particular disciplines but rather in developing an understanding of central methods and concepts of the types of inquiry which might be called scientific.

For most students this course will be their terminating one in the sciences. For that reason alone, it should not be geared to the building of cumulative knowledge, but should seek to achieve an appreciation of methods and concepts as an end in itself. Yet a student who becomes interested in science through the course could certainly pursue science further, using this preparation as a base.

The second type of student is one who has had a sufficient grounding in science and mathematics in high school to be able to undertake more advanced study. A course of the first type with students in that lesser stage of development would not be challenging enough. The course type that we recommend for this student is a problem-centered one. The accent would be on utilizing the study of the problem for a development of an understanding of the central methods and concepts used in the problem area. This would proceed on a more sophisticated level than with the first group of students. Some possible examples of problem topics are the following: 1. Why did Newton choose to consider the laws governing heavenly bodies and the motion of matter? 2. How did the earth come to be in its present physical shape? Did the continents really drift apart? What relation to these is the inner makeup of the earth? 3. How have the multitude of sub-atomic particles been anticipated and discovered? 4. How do urban noise levels affect the mind and body of a city's population?

These are only a few examples, and we will not attempt to develop course outlines for them. Our assumption is that problem-centered courses of this type could be developed which would allow a student to gain an understanding of the type of inquiry used in the sciences by actually making such an inquiry. Naturally, problem areas would have to be selected which do not require extensive knowledge and a level of sophistication which would be too high. We do feel that such problem areas could be developed and that they would allow for the aims of the course to be carried out, these aims not being the attempts to solve

the problem, but rather the attempt to communicate the nature of scientific inquiry and some basic concepts used in the problem area.

These courses will also require cooperation among faculty members of different disciplines within the sciences. From these courses, students may proceed to take more science if they wish. These problem courses will, along with the previously mentioned general science courses, present an appreciation for the values, methods, and concepts of scientific inquiry. Both types of courses will be electives with a wide choice in degree of difficulty and of subject matter and methods of approach available to the student. We feel that all non-science Brown students could handle and be challenged by courses from one of these two types.

The third type of student is one who would normally enroll in the ScB program now. We would agree with the proposition that science students reach their peak early. To take them away from their field of scientific interest in the freshman year and thereby not allow them to take half of their freshman courses in study centered around their scientific field might not be desirable. Because of the large body of cumulative knowledge necessary for study in a scientific discipline, this might force students to take almost all of their science courses in the last two years. We feel that it would be proper to allow them to pursue their major field in the freshman year along with the social studies and humanities requirements. By providing these students with an opportunity to enter into their major field immediately, we feel that we are allowing the continuity of development which is necessary in the sciences. We will discuss other aspects of the curriculum for these students later.

The final introductory course is in mathematics or formal logic. We agree with many educators such as Katz, Sanford[261] and Ducasse[262] who feel with Pinner that "if taught in the right way, mathematics[] offers one of the best means for training the intelligence. . . . [I]n mathematics one may learn of the close affinity of beauty and truth, how it is that an elegant solution or the demonstrated generality of a truth may be causes for joy. When one looks at the matter in this light it becomes very sad to contemplate how many young people are deprived of a great and inexhaustible source of joy by kinds of teaching that leave them either terrified of anything involving mathematics, or else fixed in the notion that mathematics involves nothing more than a set of devices for manipulating numbers.[263]

The mathematics requirement should be designed for those students who are not definitely committed to what now would be an ScB program. It will be designed to give students an appreciation for a mathematical or formalistic approach to knowledge and will vary in intensity and advancement according to the students. Four course styles for this might be:

A. A calculus course which stresses the development of central ideas of analysis. This could show how physical problems led to the concept of "limit" and how this concept was treated historically. It could show how general notions grew out of the necessity to solve a diversity of problems, and explain how proofs developed while at the same time examining the foundations on which the proofs were built. It should strike a balance between rigor and clarity, and would avoid mechanistic manipulations. A recommended text to illustrate the kind of course might be Toeplitz's *The Calculus: A Genetic Approach*.

B. An elementary number theory course. This course would include number theory that can be taught even without the introduction of algebraic structure. This is definitely not within the range of every undergraduate at Brown. It is rich in mathematics, however, and can be extremely exciting to the student who is both more interested and more advanced in mathematical thought. There is very little in the way of formal background necessary. Elementary number theory is covered in texts like McCoy's *The Theory of Numbers*.

C. A rigorous "re-development" of elementary mathematics. This might contain, for instance, a construction of the real numbers, and an investigation of the properties of these numbers as well as an outline of the theory of sets. Here one might show that formalism is more than abstract nonsense by an illustration of the power and universality of formalistic concepts. Otherwise, the course is likely to be boring to a student who views mathematics simply as a way to compute bushels of potatoes or to build bridges. *Foundations of Analysis* by Professor Landau and *Retracing Elementary Mathematics* by Henkin et al., are examples of texts which do this.

D. A discussion of the great problems in mathematics, both those solved and those still unsolved.

It is evident that the method of teaching is an essential factor in all these mathematical courses. These courses will fail if they do not allow individuals to relate what they are doing to their own thinking about their capabilities, about the various ways of looking at phenomena, and, where appropriate, about the way they view their life. A great deal of care must be taken to make sure that the material in these courses is not too specialized and is in fact providing an understanding of an approach to knowledge and not just a way of solving problems or "plugging in" formulas. This will be difficult to accomplish but we feel that a development of understanding in this approach to knowledge and phenomena is important and is too often neglected.

The freshman course in this area will be one semester long because we feel that the objectives of the course can be achieved in this amount of time and that if more time were allotted the course would have to deal with material which might require a degree of ability which many students do not have. This course will not

be required of science students for reasons which we will discuss later under our discussion of the science curriculum. The course will also be taught in a different format than the other freshman courses because there is not presently a sufficient staff to handle the large number of students that will be taking the courses. We will discuss this further when we discuss implementation.

This completes our presentation of the freshman courses. We would like to emphasize that these courses are not general education courses. The courses have no ideological bias, they do not attempt to cover wide amounts of material or to ground students in a tradition, and the commonness is not a commonness of material but rather a commonness of aims in the presentation of differing concepts and central methods and values of approaches to knowledge and phenomena. We feel that this type of course will allow for more relevance to the individual than in general education courses, as our proposed courses do not center around the organization and transmission of knowledge and thus are not bound as tightly by restrictions as are general education courses. Also, there will be much greater flexibility in them and students will have great flexibility in their choice of subject matter. We hope that these courses will succeed where general education courses have failed — in breaking down departmental barriers and arresting the fragmentation knowledge — and that they will not substitute superficially in the process.

While we feel that the structure of these courses on paper logically will carry out the aims we ascribe for them and while we feel that we have considered many of the realities of Brown today in drawing up this outline, in the final analysis what actually goes on in the classroom will determine whether our principles are crystallized into actual effect. We do feel that the proposed structure has a real possibility of contributing to the fulfillment of the aims we have expressed and we hope that it will be given a chance. Other aspects of these freshman courses will be discussed under teaching methods and implementation. More of the special nature of the courses will be dealt with under teaching methods and many of the problems involved in developing and implementing the courses will be discussed under implementation.

A requirement which is related to the freshman curriculum at present is the English Composition requirement. As we stated earlier, we feel that this requirement is not presently a valuable part of the curriculum. While it is indisputable that students should know how to write, we doubt that there is significant connection, for most students, between this ability and the full semester now spent in "learning how to write." Despite continued efforts to improve the English composition course, the prevailing opinion of students year after year has been that the course is not a success.

We agree with Daniel Bell that a student who comes to an Ivy League institution should be able to write before he is granted admission. It is obviously true that all cannot. We believe, however, that enough can write so that a special English composition course should not be required and that until proof to the contrary is found, it should be assumed that the students can write adequately.

To help increase the writing skills of the incoming students, more writing will take place in the small classes of the freshman courses in the humanities and social studies. If an individual is found to be wanting, he can be asked by the CAS at the recommendation of the professor to take a special writing course. This regulation is already in effect in the curriculum. (A professor may question a student's writing ability and may bring him before the CAS which may require him to take more composition training. The provision is presently rarely if ever used.) Such a course should be open to those who are judged by professors who work closely with them to need help in writing, and to others who desire assistance, but it should not be required for an arbitrarily chosen group of freshmen.

Another part of the present freshman curriculum is the foreign language requirement. We feel that the study of foreign languages is very important because it is invaluable in allowing individuals to study, appreciate and understand literatures and cultures other than their own. As we have stated, however, we do not feel that most students are obtaining these benefits of language study under the present system.

To make the language requirement a meaningful one, we suggest the establishment of ten-week institutes where an intensive study of the language as spoken and written can be undertaken. These could be run over the summer in ten week periods, or during what will correspond to Christmas and intersession, and what are not testing periods. (This scheduling will become clearer after our discussions of proposed revisions in testing system and calendar.) Or, they can be run during the normal school year. Strict proficiency would not be the goal of the language requirement but rather to allow students to experience the value of other languages for a true understanding of another culture, literature, people, and approach to life. A comprehension for other methods of conceptualization which the new language can introduce should also be sought.

These intensive periods may be successful on their own or more preferably in combination with a semester or two of further work in the language plus work in the cultures and literatures associated with the language. In our proposal, the aim of the requirement would consist not in learning the language to allow one to converse if he goes to another country, but to gain a wider perspective on the world through new ways of viewing life. The courses would be taught with this in mind. The language requirement could be fulfilled at any time during the four

years of undergraduate education and would not necessarily be encouraged during the freshman year.

If no foreign language or English composition course is taken in the freshman year, students will be allowed an elective in one of the other types of courses that we will now propose.

16. PROPOSALS FOR CURRICULUM II

A second type of course which will be present in the curriculum is the departmental course. These courses will be open to freshmen as their electives, but will probably be taken mostly during the upper class years. They will be within specific departments; their content will be determined by the departments and individuals within the departments. Some of these departmental courses may be conceptually oriented; some may center around the providing of factual material in specialized areas of the discipline. These courses will serve the purpose of developing students intellectually within an organized discipline, according to the aims which we expressed.

Most of the departmental courses will be oriented towards concentrators (exactly what "concentrators" means will be made clearer later when we discuss concentration), although hopefully departments will provide courses for non-concentrators who are interested in various aspects of the discipline or in material which falls within a particular discipline. Departments may also offer introductory courses which would hopefully be on a higher level than present introductory courses. These would be geared to prospective majors, or at least to students with a real interest in the discipline — not to people who are forced to take the course to satisfy their distribution requirements. Because of the nature of the freshman year as we have devised it, all of these courses should function on a more complex level, as professors will be able to assume a certain broad grounding in concepts and methods on the part of the students. We will not attempt to provide any further broad outlines for these courses, for each department has sufficient knowledge of its own discipline to provide for developmental courses in the discipline. We will only emphasize that the aims of developing intellect by use of the discipline should be central — not the narrow professional training which is often now the case.

A third type of course which will also be available, though primarily to upperclassmen, is the third tier course. Although we have borrowed this term

from Daniel Bell,[264] we have altered both the form and the purpose of the course pattern he set forth.

These courses are designed to combat narrow professionalism; to encourage independence in learning and teaching; to utilize different ways of approaching knowledge; to integrate various approaches to knowledge; to combat such provincialisms as angularism and temporalism; to facilitate the relating of ideas to human concerns; and to broaden the student's perspectives. These courses may take one of six different forms, with their unity as a course pattern being determined by their common aims, their prospective audience and their role as supplements to the departmental programs. The following are broad guidelines which we set forth to provide an understanding of this type of course.

A first type of third tier course is one which ignores disciplinary bounds and is similar in form to some of our present University Courses. This course would be centered around a topic which cannot fit comfortably into one discipline, such as "Technology and the Moral Order." Courses of this type would not necessarily be guided by any traditional disciplinary bounds, nor would they be made up of approaches which necessarily combine disciplines in what is often called an interdisciplinary approach. This is not to say that there will be no intellectual discipline to the study undertaken in the course, but rather that it will not necessarily follow any traditional patterns, be these disciplinary or interdisciplinary.

A second type of third tier course would be one which would provide for the application of background material from a discipline or area of study to a specific problem or problems. Thus, a professor of comparative governments might teach a course on DeGualle as a second semester sequence following a departmental course on comparative European governments. This would allow the student to utilize concepts and methods from the first course. Although the course would primarily deal in one discipline, it would not be limited to it, for to successfully study the problem or problems other types of materials and other disciplines might be helpful. A professor of constitutional law might teach a course on one specific constitutional issue or even on one case; the students would utilize knowledge gained in former general departmental studies in constitutional law as well as knowledge from disciplines such as history, sociology, philosophy, et cetera. They should gain an understanding of how the problem being studied might be typical of problems that can be studied in that field and of how conceptual knowledge and methods from that discipline and others can be brought to bear on specific problems.

A third type of third tier course is one which takes the work or views of a particular discipline and analyzes them from the perspective of another discipline. Some examples of this type of course would be sociology of medicine,

philosophy of science, and political implications of scientific progress. The student involved in the disciplinary work of an area would gain another perspective on his works by studying outside commentary on the methods used in his discipline, the approaches of other disciplines to the material used in his work, and the relation of the work of the discipline to the wider scope of human concerns. This type of course might also aid students by bringing to light implications of the work of their discipline for society, by analyzing the underlying assumptions of their discipline, and by showing how to relate the knowledge of that discipline to other disciplines.

A fourth type of third tier course would take a particular discipline and trace its development as a discipline. A course tracing the development of sociology as a discipline might give some interesting perspectives on the subject which might not be obtained in courses which deal just with the presentation of sociology at its present state of development as a discipline. A course which traced the development of psychology in its different disciplinary forms or the development of literary criticism in the past century might provide fresh outlooks. All disciplines have undergone changes and have developed different points of view. A historical view of these might prove very enlightening for students and professors working in the field. According to Bell, among other benefits of courses such as these would be the following: "to review the original problems that led to the creation of the field; to illustrate the general process of the formation of a discipline in its differentiation from a larger and more inclusive field; and to provide an intellectual history of the nineteenth century as the immediate background for present-day problems."[265]

A fifth type of third tier course would be one dealing with non-Western conceptualization and methods of analysis. We feel that there is a great need for study of thought outside the Western tradition in almost all areas: history, art, music, and religion, among others. Such courses would help students widen their perspectives by considering other modes of conceptualization and approach to knowledge and life, and would also broaden integration of what is learned in other places.

A final type of third tier course would be one which allowed for specific material and method relationship studies between disciplines. These courses would be distinguished from the third type in that they would not be concerned with the study of one discipline from without but rather with the relating of work in two or more disciplines. Many disciplines — such as political science and sociology, economics and history, psychology and sociology, literature and religion — lend themselves to this type of "inter-disciplinary" study. There could be a wide variety of courses such as these.

These then are the basic guidelines for six different forms that third tier courses might take. As we have said, in many ways we are indebted to Daniel Bell, although we have both expanded upon and changed the original meaning and nature of the patterns which he set forth. These courses will be open to all upperclass students at all times at the discretion of the professors involved. Naturally, there will be cases where previous study in a discipline is desirable as prerequisites for these courses, and other cases where freshmen may be able to take these courses. Under normal circumstances, they will represent a significant portion of the upper level curriculum. Our use of these third tier courses is less rigid than Bell's use of them. Primarily this has been done to increase flexibility and to allow greater attention to be turned to the individual student. We feel that different students will feel the need for and will benefit from the third tier type of course at different times. Thus we have them as courses in the curriculum which may be taken by students when they feel it would be desirable or when they fit into the concentration patterns which the student has worked out with a professor or committee or department. Provision for implementation and feasibility of these courses will be discussed later.

It should be apparent that some of these six categories overlap each other; many courses might fall in several of these types. Realizing this, we are offering these descriptions only as broad guidelines which will hopefully aid in showing the spirit and purpose which we have intended for these courses to the professors and students who eventually will make the courses what they become.

The last two types of courses in the curriculum are differentiated from the others and from each other by the nature of their formation and conduct. They are the group independent study course and the independent study course.

The group independent study course would be established the semester before it is to be given for credit by a group of students and a professor or professors. These people would be drawn together by a mutual interest and a desire to pursue that interest by studying together for a semester or longer. Planning might begin the semester before it is to be given, or the organization of the course could even take place during the first part of that semester. The course would be planned and carried out by all of the participants, and would be allowed to function as part of the curriculum as long as it did not violate the educational aims we have set forth.

Students wishing to organize a course will have to get a faculty member to sign a statement saying that he approves the course subject and feels that the students involved are capable of carrying on the study. He may teach the course or supervise it himself, or just occasionally meet with the students. In some cases, there may be a group of faculty members who wish to participate in the study on

either a full or part time basis. These courses may fall within a disciplinary boundary and may resemble one of the other types of courses.

The final type of course, the independent study, will proceed much as it does now. We feel that the value of independent study has long been recognized at Brown and therefore we will not spend time or space discussing it.

Any curriculum which is to be based on the tenet that the individual is the center of the educational process must construct institutional structures which will maximize this. We hope that these two types of courses, the group independent study course and the independent study course, will do this and will provide for the relevance of learning, for individual flexibility in study, and for the development of the ability to take responsibility for one's own education. In general these courses will help in the development of independence in learning. Though in many ways these courses will involve more work for students than do the other kinds of courses, we are assuming that they will provide commensurate benefits. We will discuss these courses further under teaching methods, implementation and feasibility.

These are the basic types of courses that will be present in the curriculum. This section would not be complete without a discussion of another important aspect of the curriculum: the provision for concentration. We agree with the Baylis report about many of the values of concentration.[266] We feel that for most students much can be gained from an in-depth study which demonstrates the problems, the frustrations and the joys involved in work in depth. Concentration can allow for more complete development of conceptual frameworks and for the further utilization of methods and knowledge of a particular discipline or disciplines. It can also help one to overcome the superficiality which often pervades intellectual work. The provision for the mastery of a problem area can also help instill an attitude which will allow for the other aspects of the developing of intellect.

As we have previously indicated, we do not feel that concentration as it is now being carried out is valuable enough in these respects. Thus it is our belief that a changing of both existing policy and more importantly of attitudes is necessary if concentration is to have the desired effects.

We feel that concentration is an individual matter. For different students, concentrations in different areas, consuming different lengths of time, in different ways may be more valuable. It is our belief that the value of concentration could be gained for some students from three semesters' work on a particular author or problem. It might take ten semesters of work in a department for another student. This depends upon the individual, and the area of study. For some students less concentration and more electives and integrative courses might be valuable; for others more concentration might be beneficial.

We therefore feel that concentration requirements should not be predetermined by the university. We feel that individuals should be allowed and encouraged to work out their own concentrations either within or outside of a department with each individual concentration judged on its merit. It is also important to remember that concentration is constructed to achieve the educational aims, to help in the development of intellect and not just to develop professional competence. Thus departments should not demand certain patterns for majors. If a student wishes to go to graduate school in a discipline and this requires a pre-set course pattern, then he should construct it under the department's guidance. However, if he desires to major in that department for other reasons, he should be allowed to work out his own pattern with the help of a professor in that department. If the student desires to work out a concentration in an interdisciplinary field in cooperation with a member of the faculty or under the Human Studies pattern, he should be allowed to; in fact, he should be allowed to work out any form of concentration which would bring him the values of concentration. The concentration requirement is reasonably open at Brown now; yet, because of the attitudes and the structures built into the system — distribution courses which encourage majors, emphasis on departmental professionalism, et cetera — very few students take advantage of the flexibility.

Students will concentrate sometime during their upperclass years. Concentrations will be individually worked out and will require a faculty member's approval. The Committee on Academic Standing will approve all concentrations unless they specifically contradict the aims of concentration. Departmental committees, interdepartmental committees and individual professors will supervise concentrations. We will discuss the operation of this further under implementation.

We are asking, in effect, for the acceptance of different aims for concentration than currently exist — aims that would center around developing individual intellect, and that would move away from the training for professional competence in a discipline. As we have already indicated the reasons for our unhappiness with this aim of professional competence, we will not repeat them now. This relaxation of the present system, this recognition of new aims and attitudes for concentration, combined with the breaking down of narrow professionalism which will hopefully result if this report is successful, should help make concentration an important part of the curriculum.

These then are the various aspects of the curriculum. In the freshman year there will be freshman courses for most students. In the upperclass years there will be third tier courses, departmental courses and the chance for independent study and for group independent study courses. Upperclass students will concentrate in individually designed programs. We feel that this basic curricular

structure will allow for the development of intellect as we have stated it, and will do so while providing the flexibility needed to allow for individual human relevance and self realization. We further feel that it will aid the fighting of narrow professionalism as much as structural provisions can. The system will also lend itself to the constant self-evaluation which we will discuss later. This is only a broad guideline for the Brown curriculum. There may well be a better structure to carry out our aims given the realities of university life. If so, we hope it will be found.

Before leaving the subject of curriculum, there are six areas to which we would like to devote our attention. They are the following: the science curriculum, the community action curriculum, the question of creative arts in curriculum, the place of integration in the curriculum, the number of courses studied per semester, and the number of courses offered. We will discuss these questions because we feel that they are especially important today; we will leave out other curricular topics because of lack of time and space.

We feel that those science students who would presently enroll in the ScB program are in many ways in a situation different than other undergraduates. There is a great deal more specialized technical knowledge which must be given the student in order to allow for his further development in the sciences, than exists in other areas. Thus, someone who wishes to pursue a career in the sciences must have a more thorough training in science during his undergraduate years than someone who wishes only to concentrate in science or than someone in another area. We have been convinced by the sources that we have read, that very often career science students (especially in the physical sciences) come to an intellectual maturity at a younger age than students in other areas. Therefore, we feel that to not allow students who wish to pursue a career in science to do so from the beginning of college would be unrealistic and harmful. We will make the following general proposals for those students.

We feel that the career science student should be required to take the introductory courses in the social studies and humanities in his freshman year. He should also be allowed to take whatever introductory courses in his science or in related sciences that he wishes. We make this suggestion because we feel that to prevent a career science student from continuing in his science during the freshman year would be harmful to his future development, though we do feel that he will benefit from a coherent attempt to present him with values, methods, and conceptual understandings in the humanities and social studies. These courses in the humanities and social studies would replace the cafeteria option of taking six courses outside of the sciences now in Brown's ScB program.

It seems fair to assume that science majors will have, on the average, a higher competence in mathematics than non-science majors, and that they will be taking

a good deal of math as part of their work in science. Therefore, they would be exempted from the normal freshman mathematics courses. We do feel that it would be a broadening experience for them to take a course such as Math 113 or Math 153 sometime during their college career. The content of these courses is not readily applicable to undergraduate science study but will provide the students with the type of conceptual grounding in mathematics that the freshman mathematics courses are providing for the non-science majors, though at a sophisticated level. Flexibility of time as to when they will take such a course is important for the reasons we expressed earlier concerning the individuality of development.

Courses in the upperclass years will be similar to what they are now, except that the science students will not have the requirement to take six courses outside of the sciences. Instead, career science students should be required to take third tier courses which relate in some ways to the sciences in general or to his particular science. Thus, courses which deal with philosophy of science, science and the government, technology and the moral order, the responsibility of the physicist, and many more might all be applicable to science students. Third tier courses which are solely within the sciences — interdisciplinary within the sciences or nondisciplinary within the sciences — might also be desirable for these students. Some of the purposes of such a requirement are: to help the science student integrate the very technical and specific knowledge and skills that he is gaining into a broader picture; to appreciate the grounding and the implications of his work in the science; and to broaden the student's horizon in ways which will allow him to relate the work he is doing to other human concerns.

For a report so concerned about the menace of increasing professionalism within the undergraduate curriculum, it may seem contradictory for us to set up a science curriculum which allows for early and continuous professional training. Because of the realities of what is required in science for understanding and further development, and because we feel that men and women who have decided in high school that they wish to be scientists, and who have been admitted to Brown as such, are more capable of handling the challenge of the sciences early, we feel that this is necessary. We have tried, however, to establish within this curricular structure the provision that science students will be given basic and unified introduction to other areas, and will be required to take third tier courses which should move them away from a mere performing of skills, and help them to integrate their skills outward. Finally, with their electives they might well choose to expand their interests. In this curricular structure we believe that they can develop as true, not narrow, professionals. We do not feel that this broadening will detract from the scientific training of the students. We will not

specifically describe the concentrations for career science students but will hope that the individual departments will revise their concentration offerings with these aims in mind, striking some balance between that which is necessary for full scientific development and that which is necessary for the broadening of intellect. We do not feel that the two processes are mutually exclusive, but we realize that in some cases there will be friction.

We remain opposed to attempts by departments outside of the sciences to impose the rigidity which is necessary in the sciences upon students in their own disciplines. We feel that career science students are handicapped in achieving the educational aims which we set forth because of the great amount of factual and technical knowledge which they must learn. They do not have as much freedom for development nor do they get as liberal an education as the students who are outside of the sciences, but because of the nature of science development, we feel that the program that we have outlined is necessary; we only hope that the science programs can overcome their built-in handicaps.

We do not know enough about the fields of engineering and medical science to be able to say where our aims will lead the university. Perhaps these schools should exist as separate structures associated with the university rather than as part of the liberal arts college. We have not had time to study either area so we will have to leave this to other people. We can only reiterate that the aims we have expressed for the curriculum should be followed with the exceptions that we have noted. If aspects of these two programs significantly thwart the pursuing of the aims which we have expressed, they should be modified, or they should be separated from the undergraduate liberal arts curriculum.

We will not discuss an area of curriculum which has created a great deal of interest recently in schools across the country. This is what is often referred to as a "community action" curriculum. Basically, it involves the participation of students in the life of the surrounding community as part of their studying. We feel, as we have expressed earlier, that this is one way in which the university can aid the surrounding community, and one way in which the surrounding community can help the educational function of the university. We can envision two basic forms where such work would fall within the curricular structure and aims which we have expressed. First, a student or group of students in an independent study course or in a group independent study course could fulfill the research portion of their work in the field, that is in the community instead of in the library. The student or students would have to demonstrate to whoever was sponsoring the course that the research was legitimate. A paper or series of papers might result from the research; discussions would take place among the students, or between students and the sponsor. The aims in such courses would be to utilize the concepts and methods learned in the classroom in work which is

relevant to the student; to use the work in the community as a subject for research with the ultimate aim of creating new and deeper conceptual understandings. The university's aim of community service would also be fulfilled. This type of course might involve a semester of work.

A second form that such a community action curriculum could take would be that in which a student or group of students actually lived in a community or conducted in-depth study of a community while helping to attack its major problems. If course credits are to be granted for this type of activity, close supervision would be necessary. Work in the community would be the student's major activity during a semester or a year. Again, the primary aim would not be one of aiding the community in the specific situation, although this should be one result; rather it would be the utilization of concepts and researching an area in depth. Such a year or semester of work might be preceded by several semesters of formal study relating to the problems of work in a community and the values, concepts, and methods involved in it. The semester after the work in the community might be partially taken up with the writing of reports or a thesis on the work which was done. Such an experience might well serve as the center of a concentration.

We feel that with either possibility, there are certain guidelines to be followed. First, as we have stated, such work would become part of the curriculum, which means that it should concern itself with the developing of intellect. Thus, the university should not be training social workers or political activists and should not give credit for such work. While this type of work may very well be valuable for a student, we feel that students who wish to engage in it full time should take time off from school and do so. Community action curricula should involve developing intellect in areas such as sociology and political science, through the learning of concepts and values and the utilization of their central methods. We feel that these aspects can be related to humanly relevant concerns in such work — knowledge can truly be made to come alive. These should be the central aims of such work.

Second, if such work on the part of students takes up so much time and effort as to overshadow the rest of the student's education, we would oppose it. We feel that students whose all-consuming interests run toward work in the community should take time off from school. Our educational philosophy includes many things which cannot be gained solely from such work, and thus we feel that work in the community must be kept in perspective.

Third, this type of work too often takes place in an anti-intellectual atmosphere. While we are sensitive to the needs of the community, we feel that in the long run they can best be served if university education does not lose its identity in the process of serving society. Hopefully in a community action

curriculum such as we have defined both aspects can have a place; society can be served and good education can occur. This will not happen, however, if the work in the community causes antagonism towards the intellectual process.

In conclusion, we feel that the temper of the times demands that educational institutions respond to student needs and desires by allowing for work in the community as part of the curriculum. In allowing this, however, the university should not let itself lose sight of its educational aims. Obviously, a great deal of care and supervision will be necessary to ensure that the curricular programs like on-campus intellectual activities are fulfilling the educational aims of the university.

Another area involving curriculum which has been rather controversial in recent times is the realm of the performing arts. As W. McNeil Lowry points out, "[t]he contemporary university is not only in a stage of transition but perhaps also in a stage of confusion about the role of the creative and performing arts in higher education."[267]

There is a strong trend in many universities towards the introduction of performing arts. James Perkins speaks of this trend as comparable to the trend toward introducing the sciences into the classical curriculum.[268] Yet many members of the academic community feel that performing is only fun, not something which is really related to the serious work of reading and studying. These people believe that the performing arts should not be present in the curricular program. Studies of the creative arts are considered valid but the method must be that of study and not performance. These people point primarily to the nonverbal aspect of the arts as making them illegitimate pursuits at an institution of higher learning. As James Perkins put it, "A more formidable difficulty is the heavy reliance of the scholarly world on the written word and the verbal tradition. Indeed, most universities have equated knowledge with the written word, saying in effect that human experience is recorded in books; professors write them, and students read them. The verbal tradition is powerful and pervasive and the artist who works in the nonverbal media of sound, color, shape, movement, or voice inflection will find that the university receiving sets are not always tuned to his wavelength."[269] Critics of the arts in liberal education also accuse it of being professionally oriented.

We feel that the reading of written word is not the only way that one learns. This great emphasis on the written word has often deterred the university from moving into dimensions of conceptualization and expression which are both valid and relevant to many individuals. The most obvious example of a performing art which Brown has at times begun to accept as valid for educational concern is that of creative writing. A speech by Professor Cassill well expressed the needs for creative writing and the emphasis that it warrants. The following

situation which Cassill describes too often exists in the teaching of appreciation of literature. Appreciation includes understanding, "and yet in the teaching of literature we tolerate something analogous to a tennis game in which the receiver, or reader or student, catches the poem or story that is served to him and either holds onto it in the dry and undigested library he has built into himself in the place where his stomach belongs or trots back around the net with it, carrying it back in the form of answers to examination questions or as a thesis, a critical article perhaps, published in what are called 'reputable journals.'"[270] We heartily agree with Cassill when he continues that one often cannot appreciate literature unless he has tried to write it; "The positive education in literature must begin with reading and writing as a continuum."[271] Thus, we feel that the teaching of writing and the practice of writing can be very valuable in providing tools by which to understand literature.

In another example, it can be of great assistance in understanding a play or a playwright to work in the writer's intended medium, that is, to perform the play itself. Often, performance will provide a great deal of insight into the play. Similarly, we feel that filmmaking, painting, and performing music and dance help provide an understanding of these mediums, and demonstrate other ways of looking at man and reality — ways which by their difference in style from the verbal tradition are particularly valuable for many individuals.

For these reasons we feel that courses in the performing arts should be encouraged at Brown University. These courses must be subject to many of the qualifications that we have already discussed. Thus, a course whose aim was to train students for the professional theater, or to be professional moviemakers or dancers, would not be useful at an undergraduate liberal arts university, while a course whose purpose was to impart to students an understanding of these modes of expression or to intensify the student's appreciation of the creative arts certainly would. It must be remembered that different individuals conceptualize and express themselves in different ways; the aim of the creative arts curriculum should be the intellectual development of the individual through the presentation of different methods of approach, and through the shedding of provincialisms. There are many components involved in the creative arts: methods of approaching knowledge and phenomena, conceptual frameworks, and ideas which can be related to human concerns.

Those who say that work in the arts is only entertainment are not aware of the great amount of work necessary in these endeavors, nor of the value for the educational aims which we have set forth. Moreover, all of one's work in the university should be enjoyable and rewarding.

It seems perfectly legitimate and desirable that third tier courses, departmental courses, group independent study courses, and concentrations

should be developed in the performing arts. Even freshman courses, if their special aims were fulfilled, could involve the use of performance; for example, writing, or work in the theater, might very well help illuminate ways of approach in the humanities courses. The main emphasis would not be the actual performance or the training of people to perform well, although both of these would be part of the process that would occur, just as students will become better readers after a college education; the main accomplishment will be the developing of intellect and the enrichment of the student's educational experience.

Another concept in the area of curriculum with which we would like to deal is that of integration. Basically, we agree with Ducasse's contention that true integration cannot really be completely structured; it cannot be scheduled to occur at different times during the educational experience.[272] We do feel, however, that efforts can be made within the curriculum to help the process of integration. Integration for us means, on one level, the combining of different pieces of knowledge, different values, different methods, and different concepts, in a striving towards some form of intellectual unity. To achieve this we have attempted to construct freshman and third tier courses which will point towards this. We have also attempted to minimize the factors such as narrow professionalism and the mechanical performance of skills which hamper students in their efforts to integrate their work. Finally, we will attempt in another structure under “extracurriculum“ to encourage students and professors during their educational careers to understand what they are doing and why they are doing it. This follows closely upon Ducasse's conception of what integration should be. We feel that these efforts will prove to be a better method for the encouraging of and the providing for integration than in the present, where no effort is made except by a few individual professors.

There is a deeper sense of integration which we have been moving towards throughout this paper. This involves the integration of all of one’s experiences, though primarily the intellectual ones, while at college, in the attainment by each individual of meaning and direction for his life. For this reason, we have tried not to limit the concept of integration just to the developing of intellect. In providing for the sensible development of intellect, in establishing structures which are cognizant of the need for education to be humanly relevant to students, and in creating an atmosphere where facing the questions of identity and self-realization are part of the avowed aims of the institution, we have tried to help the student integrate intellectually what he learns, but more importantly, to integrate all of his experiences towards the making of a fuller life. Obviously there is a gap between our functionally defined aims and the desire for this type of integration. Because it is such an individual matter, we cannot provide for it structurally, but

we hope that the feeling permeating our aims and our structural proposals will work towards this. Only time will tell.

The next aspect of the curriculum that we will consider is the number of courses to be taken per semester by each student. In general we agree with Whitehead's admonition, "Do not try to teach too much but what you teach, teach well."[273] We feel that in many cases, a four course requirement is good. In some cases, however, it may be beneficial for students to take extra courses, as they now can, under the audit and vagabond system. In some cases it may be beneficial for them to take fewer courses. In those cases in which students may be involved in a study which consumes enough time for more than one course, they should be allowed to take a fewer number of courses, and be given double or triple credit for the more demanding work. Flexibility in this curricular aspect will greatly aid the aim of individual relevance which we have set forth.

Another aspect of the curriculum is the number of courses to be offered by the university. We will have a great deal more to say about this subject under "implementation". We would like now to comment briefly on one aspect of this. Beardsley Ruml has pointed out that when new courses used to be added to a curriculum, it was called enrichment. Now, he says that it has come to be proliferation.[274] In noting this same tendency, David Riesman has said that it is a peculiar American characteristic to add instead of integrate.[275] Contributing to the proliferation has been the increased specialization of knowledge, the increase of knowledge in general, and the desire to offer more relevant courses.

The addition of courses to a curriculum can be either good or bad, depending on how it is accomplished. Addition using a coherent plan and serving a real need is valuable. On the other hand, if new courses of study are added for the sake of beefing up the catalogue or in order to make it sound more exotic, or for other dubious reasons, the result can be a disjointed and fragmented curriculum as well as poor faculty utilization.

A small school like Brown cannot expect to be able to teach everything. Its attention should be concentrated on teaching what it does teach well, attempting to make the course subject areas meet the needs and desires of the students while remaining cognizant of the abilities of the faculty and the educational aims of the institution.

These then are our curricular proposals. They carry no lifelong or even six-month guarantee, but we feel they stand a good chance of carrying out the aims which we have expressed — making Brown a better place to be.

These suggestions are only guidelines. We have accented the presentation of underlying values, central methods, and concepts and frameworks, and the utilization of these methods and concepts, as central to the aim of developing intellect. We have emphasized the necessity for close individual attention and

reorientation in the freshman year. We have also stressed flexibility and have made an attempt to structure the curriculum to allow for the human relevance and self realization that we spoke of earlier.

We will discuss the procedure which can be used for the evaluation and the implementation of this system later in this report. No matter how feasible we can show this curricular structure to be, it will still require a great deal of work by a great many people to make it work successfully — if indeed it *can* work successfully. It will involve change, and change is one of the hardest things to bring about in any environment. Many professors and students may not like the system at first; we believe however, that our aims are desirable and that these structures will become successful in carrying out these aims. We also believe that the probability of this success is strong enough to warrant a try.

We will now proceed to a discussion of testing.

17. TESTING

The next structure that we will discuss is the testing system. We will include in this discussion of its role in carrying out the educational aims of the university the use of the test as a teaching method, an evaluation of the present final examination system at Brown with recommendations for improving it, and a few comments about testing during the semester and comprehensive examinations. Testing is obviously closely related to evaluation, a subject which we will discuss immediately after this section.

A test can serve as a learning experience in many ways. It can encourage students to analyze the methods and concepts that have been studied in a course and to utilize them on specific problems. It can direct a student to synthesize and integrate the material that he has learned. It can compel students to crystallize their views on varying subjects and to organize their thoughts in an orderly fashion. A test places students in a situation where they must take full responsibility for stating their opinions. Through pressuring the student, a test situation may cause him to obtain results and gain insights which might not normally be forthcoming. A test can indicate to a professor how students are receiving the material which he is presenting; feedback of this nature is especially valuable for sections of courses which are complicated, or in courses which deal with a cumulative body of material. Finally, a test can serve as an evaluative tool. It can introduce a student to a professor's opinion on his progress based on a concrete piece of work; it can aid a student in judging his own progress and in considering future directions for his work.

Thus, testing can have many educational values. Yet often it does not. Whitehead has said that often exams have a deadening effect on minds which are alive.[276] Hutchins has said that often exams only judge such traits as docility, memory, and faithfulness, and not true intellectual power.[277] Recently, professor Frerichs has characterized what too often results in the testing process in describing what professors try not to do. “What we do not seek to do with students is to engage them in some form of indoctrinating teaching, a method

which was recently described as pouring from a big pitcher into many little pitchers. At the final exam it is poured back into the big pitcher and what is left is a lot of dirty little pitchers."[278] Too often, exams measure one's ability to determine beforehand what a professor will emphasize on an exam, or how well one can repeat what has been said in a course.

This is often the result of a philosophy of education which has the transmission of knowledge at its center. Tests which call for the recounting of facts, the picking of the correct choice, or the repeating of lecture notes are prime examples of this. Other exams test a student's ability to hide his thoughts behind language, instead of utilizing it to reveal them. While testing can have many values, and in some cases does presently at Brown, we feel in general that testing at Brown is failing to live up to its educational potential.

We do not feel that we are able to make many suggestions on methods of preparing tests, on types of questions to be asked, or on kind of material to be covered. Specific situations would call for different types of exams. Yet, we do feel that we can present some helpful general guidelines for test preparation which flow from the educational aims which we have expressed and from the values of testing that we have outlined. Wherever possible, tests should be geared to the individuals who will be taking them. They should be flexible enough to allow each student to respond to them in his own way. This can be done while still maintaining the directed quality which can be valuable in testing. The central emphasis should not be on the "fair covering" of the material in a course, but rather on the intellectual development of the students through the use of exams as a teaching tool. The exam should not concentrate on seeking to determine what a student knows but rather on attempting to aid the student to utilize the material from the course in a manner which will allow him to expand from it. In most cases, exams should accent utilization of methods and concepts or the relation of ideas in the course to new situations. Finally, we ask that the individual constructing the exam keep in mind the educational functions which examinations should perform and the general educational aims of the liberal arts education.

We feel that many of the difficulties with examinations involve not the examinations themselves, but rather the structural systems which are designed to administer the examinations. Turning to Brown, we feel that changes in the final examination structure might be valuable to aid the final examination system in better serving an educational function. We will briefly discuss the present structuring of final exams at Brown, evaluate it, and then make our recommendations.

Presently at Brown, there is a final exam period at the end of each semester. The two-week period immediately preceding this exam period may be used as a

reading period according to the discretion of the professor. If the reading period option is followed, students are assigned extra reading or papers, are encouraged to do extra reading for their courses, and are asked to pull together the semester's work in each course. If it is not followed, classes proceed as normal. Exams are usually three hours in length and are constructed by each professor. A professor may petition the Curriculum Committee to deviate from this pattern; some do, and some deviate from the pattern without permission. These professors vary in their alternatives. Some give one- or two-hour exams; some give oral exams; some provide the students with the exam questions in advance; some give take-home examinations; and some refrain from giving any final examination. Over eighty percent of the courses given to undergraduates at Brown, however, have the normal three-hour exam during this period.

We will not dwell on the discussion of whether examinations given under these circumstances are valid indicators of educational progress. There is a great deal of evidence that these types of examinations evaluate a student's ability to think quickly under extreme pressure, and to write well (which includes having good penmanship) and not necessarily his educational abilities. What concerns us most, is whether exams given under these conditions can satisfy all of the educational values of testing that we have mentioned. While in a few cases it is possible for this to happen, in general we feel that this structure is not conducive to the best educational use of final examinations. We feel that the final exam system is geared only to the function of evaluation and that for reasons expressed above and for others which will follow, it is not even maximally successful in providing for this.

Perhaps the greatest flaw is that of the time pressure which is exerted. Four final exams are squeezed together into a short period of time — sometimes as short as two or three days — and students are not able to reap the educational benefits from even the best of examinations. This time pressure is felt in numerous other ways. With the examination contained in three hours, students have little chance to analyze the questions carefully, often leading to misinterpretations of the question. There is little time to weigh the questions or to consider their implications. One scarcely has time to think before writing. Often when a student does not understand a question or feels inadequate to deal with it, he lets the problem slip by and attempts to hide his ignorance behind words, or to sidestep the question. Too seldom does he have the time to later confront the problems which he has avoided. Often there is no time to explore different possible approaches to answering the question or to attempt to utilize different methods and ideas in answering it. It is also difficult to carefully reflect on all of the implications of possible original answers that may be rendered, and thus students tend to stick to established answer patterns — those which come straight

from the lecture notes or readings — instead of being encouraged to attempt original thought.

The time pressure may hinder the accomplishment of educational aims in other ways. It limits the amount of time which the professor or teaching assistant has to grade the examination. There is little chance for lengthy consideration; there is almost no chance of consulting the student about the thrust of his answer. The same time pressure which limits the grader also prevents the student from reexamining his test after the professor has evaluated it. Finally, the limiting of the examination to the three-hour periods tends to focus all of the already considerable pressure on this one time period. There is little to be gained from making this one time slot the focus of a student's study for five months.

Some human problems frequently arise because of the restricted time period of three hours. Some students cannot function well under such intense time pressure and thus tend not to derive a maximum benefit from the examination. Personal problems which arise before an exam may limit a student's powers of concentration and thus limit his effectiveness during that three-hour period. Students who may suffer temporary discomforts which are not serious enough warrant an infirmary excuse but yet which can tend to reduce one's ability to think also suffer from the confined time period. Stomach aches or headaches which may develop immediately prior to the exam or even during it can also affect a student's performance. Finally, the student who has three exams in a row or who does not function well early in the morning may not be able to benefit as much from the exam as he may wish. In all of these cases, the restricted timing of the test can hinder the educational aims of testing.

Another basic difficulty of the present system is the emphasis on the evaluation function. Because this is often regarded as the main function of the exam, and because of the importance of grades to many students, the aim of the students is not the developing of intellect but rather the achievement of a high score on the examination. This aim leads to the use of almost any device, legal or illegal, to better one's chances of success. The most common technique is for the student to attempt to figure out what will be on the examination — by viewing past examinations, by sounding out the professor, and by guessing at what the professor feels is important. In general, attempts to "psyche out" the exam are commonplace. The emphasis of the examination structure encourages this quest for high evaluation, regardless of the developing of intellect; because the emphasis focuses on what best provides the fairest form of evaluation while still being administratively effective. Often, as we will discuss later, this emphasis on evaluation, no matter what the degree of fairness and administrative efficiency, is harmful to the developing of intellect.

We have two main suggestions concerning the structuring of final examinations which we feel will aid them in performing their proper educational functions. The first is that all final examinations be given as take-home exams, handed out to the students at least one full month before they are due. We will first attempt to answer some of the possible objections to this, and then express some of its advantages. Some may say that such a system will encourage students to cheat; many students will abuse it. We agree that some students will abuse it. We would merely point out, however, that many students abuse the present system. Some abuse it by traditional methods of cheating, although we feel that the number of students who do this is exceedingly small. Other students abuse the present system by attempting to "psyche out" the exam or professor, or by hiding behind language. Some are encouraged to do this by a system which creates a great deal of pressure and which they feel is unfair and educationally irrelevant to them. We believe that while there will be abuse, it will not be substantially greater than presently takes place. We also feel that a system should not be designed with the abusers in mind. If a student wishes to abuse an examination system, he will find a way no matter how many obstacles are put in his way; and if these obstacles are having a harmful effect on the other students, we feel that they should be eliminated. There will always be abuse. Educational planners should gear their systems on a basis of trust, to provide the maximum possibilities and benefits to those who will not abuse their education.

We would also like to point out that honors systems have worked elsewhere; we feel that they could work satisfactorily at Brown. If at a school like Brown, there is a widespread fear of abuses of take-home exams, then higher education has more problems than this or any report can solve. We have more faith in students than that.

A second argument that we have heard expressed is that of administrative efficiency. We feel that the giving out of exams should allow even more time for administrative aspects of final examinations to be handled. Two examples are sufficient. An enormous amount of time might be saved with the elimination of exam schedules and proctors. With due dates staggered, professors and their assistants might have more time to grade the exams. We are unaware of any administrative problems sufficient to warrant dismissal of this proposal. We will discuss administrative procedures further under our proposals for implementation.

Another criticism is that in certain subjects a different sort of provision would be more valuable. In some instances it might be valuable to test speed in answering. Although people who have presented this argument have been hard pressed to provide us with an example of where this would be so, we do recognize the possibility. In other courses, a final paper, an oral exam, or no exam

may be more desirable than a take-home exam. Therefore, we feel that the proposal for a take-home exam system should not be a rigid one. The option should rest with the professor, perhaps in consultation with his students. We are only recommending take-home examinations as a general policy if tests are to be given; there may be deviation from this if thought to be educationally desirable.

Another objection to take-home exams is that the present system with its pressures and crises is better educationally than that of a long, drawn out take-home examination. We feel that it is educationally valuable to bring students to crises in some courses, but we feel that a crisis period which lasts a few weeks exerts enough pressure and has greater benefit than one which lasts the same amount of time but comes to fruition in an arbitrarily established three hours of written work. The beneficial effects of the pressure will still be present — students will have to write good exams — but the anxieties caused by feelings that you knew the work but didn't have time to reveal it on the exam, or that you didn't understand the exam questions, or that all of your study time was wasted because you guessed wrong on what would be on the exam, and many of the other problems of the three-hour exam, would be eliminated. The product of the pressure should come for students when it is most natural. For some students it will come in a three-hour period the night before the exam is due; for others it will more naturally take place over short periods of time each day for several weeks. A philosophy which has the individual as the center of the educational process should be carried out by structuring which recognizes the peculiarities of how individuals react in pressured situations.

An objection closely tied to the last one is the argument that the high pressure exam system which we have now leads students to write better examinations. While we may grant that a student who does not know the questions on the exam might more completely study all of the material in the course and might also be at an emotionally higher pitch than if it were a take-home exam, we feel that these are irrelevant to the educational values of the examination. When the educational aims center around the development of intellect, the reviewing of great amounts of material is not as important as the ability of the student to utilize the methods and concepts gained from the course. Further, we believe that this argument rests on the fallacy of the "golden exam." This places the emphasis on what the student produces during the examination. It is our belief that the examination itself is only worth the paper it is written on. What is important is that which the student carries with him from the exam, the results of the learning experience provided by the examination. If, as is often the case now, students cram, write the exams, and then forget all that they studied and carry nothing of the learning experience of the test with them — either because they must begin study for their next exam, or because the pressure is reduced, or because the only impetus was the

evaluation — then the piece of paper, its good answers, its keen insights, in fact the whole examination process, is useless. We feel that too often very little learning is taking place from exams. By using take-home exams and by changing the emphasis on evaluation (which we will discuss later) we believe that the student might come away with more from the examination, and that the individual will be seen as more than an answer book in the testing structure.

The advantages to take-home examinations are numerous and some of them already implied. We will mention a few others. They will allow students to carefully consider the problems involved in the examination and therefore in the course. Students will be able to explore the implications of the questions with the professor, teaching assistants, and other students, and misunderstandings will be avoided. There will be more time for educational considerations both by the students and the professors, and there will be more chance for originality and exploration in the answering process. Excessive and harmful pressure will be done away with, although the benefits of crisis will be maintained. Finally, by allowing more time, the usefulness of the test as an evaluative instrument would be increased as there would be a greater possibility that true intellectual power is being used and not just traits such as memory, quick recall, and the ability to write quickly and under pressure, et cetera.

In general, there will be some students who will abuse this new system and some who will not derive further benefits from it. However, we believe that its benefits will affect most students and will allow for a better use of the examination as an educative tool.

Our next suggestions are that the final examinations be returned to the students after they are evaluated and that some provision be made for a class meeting or for individual meetings between the student and the professor or teaching assistant in order to discuss the exam. We will discuss evaluation presently and will return to this proposal. In general, we feel that it will facilitate the possibility of external evaluation having the desired effect of increasing self-evaluation. This will be done by allowing the student to see his answers in relation to other ways of handling the problem, and by encouraging a more careful and complete look at the problems involved in the examination. It also will allow the student to view his own work in the context of the specific comments of the professor or teaching assistant. As McKeachie has said, "the simple principle that knowledge of results facilitates learning is one of the few generalizations clearly supported by research on college teaching."[279] We believe that this will greatly aid in allowing examinations to fulfill their educational aims.

The only arguments against this proposal which we have been confronted with are those of administration. We feel that these problems can be met in a

number of different ways when combined with the take-home examination system. We will make such suggestions under our implementation procedure.

We feel that these changes in the final examination procedure, coupled with the constant attention on the part of the faculty members and students to using examinations in the ways that are educationally valuable, will greatly increase the educational role of final examinations at Brown. We will now comment briefly on other examinations during the semester and on comprehensive examinations.

First, we feel that exams which serve to provide feedback for a professor should be separated from exams which are designed for evaluation. In the feedback exam, the purpose is to gauge how the students are grasping different aspects of the material of the course. We feel that this can and should be done without using these exams for evaluation also. By definition, these tests require "feedback" of material which is not always best for determining evaluation of a student's progress; we also feel that if students have the weight of evaluation hanging over them, the exam may not function to provide a good indication of how the students are absorbing the material.

Second, we feel that exams should be given only when they are felt to be educationally valuable. Administrative efficiency, or need to adhere to provision for a midterm exam period, or thought of attempting to be fair to the students by giving them as many chances to achieve high grades as possible are not sound educational reasons. We will discuss the need for and use of tools in evaluation in more detail in the next section.

The use of comprehensives has steadily declined in the last few years at Brown. Numerous departments have moved from the use of comprehensives to the requirement that all concentrators take an integrative seminar or read certain specific books not ordinarily read as part of their course work.

We feel that the trend away from comprehensives is a desirable one, although we have some reservations about the requirements which are being instituted. Comprehensives too often fail to accomplish their principal aims — the testing of students to see that they have done the necessary work in their concentration, and the integrating of knowledge from a number of disconnected sources which the student has taken to fulfill his concentration requirement. The first purpose is better accomplished by a professor who supervises the work of the student in his course; it is our belief that, even granting this, the values of concentration which we have outlined cannot be tested. The second aim, that of integration, cannot be made to occur at one particular time, as we have stated earlier. It must be based on a knowledge of what all the parties are doing, and may at best be facilitated structurally. There are other negative aspects of the use of comprehensives. A standardized test does not allow for the differences in concentration among individuals, nor does it serve the particular needs of individuals. It focuses rather

on a fixed body of knowledge which is supposedly being transferred. Moreover, as the failure to pass comprehensives results in the failure to graduate, it becomes the focus of a large part of the educational experience and increases the already great emphasis on tests, thereby compounding the negative aspects of testing which we have just set forth.

18. GRADING AND EVALUATION*

At present, an *A*–*E* system of grades, fairly standard among colleges across the country, is used at Brown. At the end of each semester letter grades are awarded to students in each of their courses. An *A* represents excellent work, a *B* represents good work, a *C* represents fair work, a *D* represents poor but passing work, and an *E* represents failing work. A grade point average is computed from these grades with the following equivalents: *A* = 4; *B* = 3; *C* = 2; *D* = 1; and *E* = 0. Students must secure an average of 1.75 or above to be eligible for graduation. Although this is the basic pattern, some variations were instituted at Brown upon recommendations submitted by a committee of the faculty chaired by Professor Dietrich on May 6, 1965.

Because of a concern about the "distribution of grades," the "alleged imprecision of the grading scale," and the "quality requirement for graduation," the committee was charged with examining the grading system at Brown. In discussing the problem, the committee established some basic guidelines:

> The fundamental issue is, we believe, the use of the grading system as an instrument of education. What matters most is how the faculty employs the system and how the students respond. Any changes in the regulations are subordinate to that basic consideration.
>
> In the secondary school preparation of our students, a highly competitive and somewhat artificial emphasis on grades and test scores is a pervasive reality. The persistence of this pre-occupation can stifle the enjoyment so important in mature learning. Equally pervasive is the drive toward graduate and

* [References for this section are in a separate Grading Bibliography. — Eds.]

> professional schools and thus the importance of grades for admission. This tends to make college more and more simply a pre-professional school where a record is compiled.
>
> For our own educational purposes and in the discharge of our obligation to the graduate and professional school, we need to provide accurate evaluation of the students. But equally we need to deflect the exclusive preoccupation with grades.

With these premises stated, the report went on to make the following recommendations: First, that the President undertake, through the department chairmen, a review of grading procedures in each department; second, that because graduate assistants and readers do much of the grading, a review of policies relating to the selection of teaching assistants and the assignment of fellowships be instituted; third, that the grade of *F* — which had previously been used to signify that the student could no longer take any more courses in the department — be abolished, and pluses and minuses which would be "useful both to the student himself and to graduate schools" be used; fourth, that a change be made in quality requirements for graduation which would allow a student to fail two courses. Other recommendations of the committee made it easier for students to change degree programs without being academically penalized, and harder for students to make up failing courses in summer school. Finally in a "protest against the tyranny of grades" and in an effort to "encourage students to be bolder in choosing electives" the committee recommended the institution of an option by which a student could designate two courses outside his major as pass-fail courses. In concluding, the committee stated its belief that the proposals which would "have the most direct impact on each faculty member and student" were the introduction of pass-fail, the use of pluses and minuses, and "the call for a reappraisal of the grading system as an instrument of education." With the exception of the change in quality requirements, which was not passed until 1967, the formal recommendations were accepted in 1965.

The Deitrich Committee Report represents the most recent statement of policy on grading to emanate from the faculty. Perhaps its most important point was its calling for a reappraisal of the grading system as an instrument of education. In this section, we shall attempt such a reappraisal.

Although the debate over grades has raged for many years, too often it has been marked by prejudices and irrationality. Some have championed the grading system as a "mark of discipline" while others have called for its demise because it destroys education's "human values." Most people, however, examine the pros and cons superficially and reach the familiar conclusion: "Grading is

inevitable. . . . Evil or not, grades are necessary because no better criteria of evaluation have been devised." In this paper, we will first attempt to evaluate objectively all of the arguments for and against the present grading system, citing the studies which we have encountered and feel are reliable. We will then discuss alternatives which have frequently been proposed and will conclude by making suggestions based on our philosophy of education and on the realities of the present university situation. We hope that this complete discussion of arguments and studies will provide a substitute for the irrational and solely experiential arguments about grades which we have seen take place at Brown and other institutions. Although we will attempt to be objective, we must admit a bias against the present grading system.

One strong argument in favor of grades is based upon their reliability. While grades are certainly not perfectly reliable in separating the good student from the bad, the argument goes, they are still good indicators of scholastic performance and as such usually do an adequate job of identifying the proficiencies of the individual student.

Although this belief in the reliability of grades is fairly widespread, some hard questions must immediately be asked. What do grades really measure? Grade supporters sometimes insist that they measure scholastic achievement, but this is not a useful answer as "scholastic achievement" means many different things to different people. (Marshall)

Often when objective criteria are sought for awarding the grade, only those criteria which can be specifically measured in a precise way are considered. The situation described by Webster, Freedman, and Heist (1962) exists: "Instructors delimit the meaning of assigned grades by informing students, usually early in courses, that grades will be based only upon specific kinds of material, usually assigned reading or problems solving skills, the retention of which can easily be tested later." In such cases, the grades measure the ability to retain and then give back knowledge — an ability which may not conform to everyone's conception of scholastic achievement. This type of testing and grading is like a story told by Christian Bay (1962) in which a man searches for his lost watch under the street lamp since it is light there, even though he has lost it in the shadows nearby. What can be precisely measured is used as a criterion, even though it may not reflect the desired traits.

Often when specific boundaries for the grade are not outlined, the specific professor must judge what criteria best represent those qualities which make a good student. A professor may judge his students by many varied criteria, emphasizing some and completely disregarding others: mastery of technique or subject matter; development of critical judgment; appreciation; creativity and originality; motivation; or even conformity. Some argue that even though

different professors have different criteria, the student who can consistently do well fulfills many or all of the varied positive criteria that professors establish and thus can rightly be considered a good student. As we will argue later, we feel that such adaptability shows only that the student is a good grade-getter and does not necessarily indicate that he fulfills many varied criteria of being a good student.

Further, it must be remembered that the instructor and the student interact in many complex ways. The many non-academic variables resulting from this interaction all have an important bearing on the grade. Because of these many variables, there is even greater doubt as to what grades measure and as to the reliability of this measurement. It seems impossible to examine all the factors that add to the determination of a grade, and of course they vary from case to case, but by revealing some, it may be possible to demonstrate the extent of the possible inaccuracy.

C. H. Haagen (1964), the registrar of Wesleyan University, has catalogued some of these variables:

> 1. The instructor may be grading on the development of the student's mind, or on his originality, or on his conformity. Presumably, the students are able to find out with relatively constant success just what is being called for, but such variation does not encourage their allegiance to the institution. The question "what does he want?" is heard all too frequently in student circles and students are all too willing to give "him" what he wants.
>
> 2. The instructor may not clearly define the objectives of the course.
>
> 3. Methods of teaching vary among instructors as to how much scope is allowed for the student's particular strengths.
>
> 4. Instructors may or may not exercise accuracy of observation.
>
> 5. Instructors' standards of comparison range from some absolute criterion of perfection and mastery of a subject to a rigid curve.
>
> 6. The personality of the instructor may be sympathetic and constructive, or prone to personal biases, or lenient because frightened of students, and so forth.

We will briefly expand on each of these. We have already shown that different professors might use varied criteria for judging good and bad students. Finding out what each professor "wants", better known as "psyching out" the professor, is a common practice among students. Many students equate finding-out, and being able to transform themselves into what the professor "wants", or at least being able to convince the professor that they have the qualities he "wants", with grade getting ability. This is done consciously or unconsciously by the student; his success in doing this — and not necessarily the actual possession of good qualities — often determines the quality of the grade.

Often the objectives of the course are not made clear to all of the students. Students who carry their interests in the course in directions which — while perfectly legitimate intellectually — do not correspond with the objectives of the professor, will often suffer in their grades. Often students who are the most independent intellectually receive lower grades because of their independence, and their lack of understanding of and regard for proposed objectives.

Variance in teaching methods may very well affect the grade of the student by accenting certain traits over others. One English 25 instructor may encourage classroom discussion to the advantage of the extrovert and the prolix, while another may dominate his class and emphasize papers to the advantage of the shy prose stylist.

If the professor uses tools for measurement and evaluation, their accuracy and validity and what they measure must also be brought into consideration. In the previous section, we have mentioned some of the possible variables affecting success on tests. Sometimes, tests measure the ability to recount and regurgitate lecture notes or readings; sometimes, they measure the ability to work well under time and other pressures; and sometimes they measure the ability to use language. Also, tests can be affected by a great number of variables, such as state of health of the test taker, misunderstanding of questions, and misunderstanding of answers by the grader. Papers as materials for evaluation may also suffer from some of the same faults. Palmer (1961) has noted that "studies have shown that an instructor does not usually give the same grade to a paper when he rereads it after an interval of time without knowing his previous grade." Also, many students can attest to the fact that different professors have often varied widely in the grade assigned to the same paper which has legally or illegally been used for more than one course. Finally, the professor himself may not be able to accurately discern even those traits which he feels are most important in students, and thus the grades he assigns with the help of tests, papers, and his own observations may not be reliable.

Reliable studies have shown a great divergence among levels of grades in different courses. (Miller 1966) In a study done at San Diego State College, Kirby

(1962) found that median grades of 206 instructors varied between 1.82 and 3.88. Differences in course difficulty notwithstanding, the grading system still allows enormous divergence. Aiken (1963) has shown that whatever professors may insist, they usually grade with reference to the existing ability of their students. In other words, they curve their grades. Miller (1966) has noted that most professors, consciously or unconsciously, have roughly limited the number of A's and D's before they have even met the class. The fact that grading procedures range from almost complete curves to absolute standards of mastery of a subject, we believe, add to their questionable reliability. Also, the curved system adds the variable of the relative abilities of the other students in the class, and the absolute standard adds the variable of the professor's criterion of where the median of the absolute falls.

The final factor brought out by Haagen — the personality of the instructor — is also important, as can be seen in many of the previous statements. His anxiousness and insecurity may cause him to grade his students leniently to avoid disapproval; his sympathy and understanding nature may cause him to indulge in therapeutic grading, hoping that the encouragement will lead to something constructive; or his personal involvement with a student might take the form of identification with a student's problems or social contact on various levels, and might affect grading. Also, the personality of the student and the reaction that it triggers in the professor may have a great effect, either negatively or positively, on the evaluation provided by the professor, depending upon his personality and the personality of the student.

Aside from these very crucial factors mentioned by Haagen, a number of other possibilities have been pointed out. According to Dressel and Nelson (1961) the following factors may be important:

> Absence, bad attitude, non-participation in class, and the like are considered by some teachers behaviour contributing to a low grade. Grades can be and are used as a weapon to enforce student conformity to the prejudices of the teacher. These prejudices may have justification in the content and methods of the course, but they may also be purely personal and irrelevant. The case of the excellent student who was failed because his instructor disliked his attitude comes to mind. The inclusion of such personal, intangible, and often unspecified elements in grades make their meaning unclear.

McConnel and Heist (1962) add that "an individual with strong authoritarian attitudes might make better grades in a college that condoned or rewarded

conformity or dependency than in one that attempted to stimulate intellectual independence and which rewarded unconventional intellectual behavior."

There is a body of evidence suggesting that sex and manipulativeness are both important factors which affect grades. The sex bias has been noted by several researchers. In a study of the marks given by male instructors over a long period of time, Maney (1933) found that the "grading of women was not as objective as the grading of men." Kelley (1958) came to a similar conclusion in a study comparing instructor's ratings with end-term exam marks. While women's exam grades were only slightly higher than the men's, their instructor ratings were substantially higher. The most thorough study in this area was done by Singer (1964). He demonstrated that attractive women had an advantage over their not-so-well endowed fellow students. He also found that in the case of attractive women, sitting in the front of the classroom resulted in significantly higher grades. Singer also found that the quality of manipulativeness was important. Frequently utilizing professor's office hours to endear oneself to the professor and other forms of "grade grubbing" resulted in significantly higher grades.

Certain student behaviors in response to the grading system also contribute to uncertainty of what is being measured and inaccuracy in measurement. Many students with high grades admit that the talents they used to gain their high grades were not those that they would consider educationally important. Often students separate the work they do to learn from the work that they do to obtain high grades. Birney (1964) reports that an analysis of the members of the Amherst Class of 1959 "suggests that . . . grade point averages are distressingly unrelated to important behaviors." Through techniques such as judicious course selection, cramming, and adroit test taking, students who showed little interest in academic opportunities and little ability in this direction had grade point averages which "did not differ by more than three grade points in their four year averages" from those students displaying definite scholarly tendencies.

There is even evidence (Brown 1959) that college teachers themselves put only limited value on grades as indicators of achievement. When asked to list their outstanding students, they nominated both some of those to whom they gave A's, and some to whom they did not. Complaints about the capriciousness and variability of grades are perennial. Webster, Friedman, and Heist (1962) state that "students and teachers alike often suggest that high grades are only formal requirements — requirements for graduate school, prerequisites for later professional status, and the like — and it is inferred that grades cannot at the same time be measures of general educational status or development."

In all fairness to the supporters of the present system of grading, it must be said that there have been some studies, notably that of Kappel (1962), which show low but significant correlations between grades and later attainment, a correlation

which — despite the evidence presented above — may prove that grades are basically good indicators of qualities which help people succeed in life. However, there have been at least as many studies comparing success in careers to grades in school which show a negative correlation. A study of a group of creative research scientists, by the Institute of Personality Assessment and Research at Berkeley (Mackinnon 1959) has found that "most earned no better than a *C+* to *B-* average" in college, while apparently achieving no higher grade performances in the subjects of their future specialty. Other studies, such as that by Freedman (1964), show no marked correlation between grades and future success. Closely tied to this is the argument that undergraduate grades are significant predictors of success in graduate school. While it is true that there is a higher correlation between college grades and graduate school grades (Platz 1959), there seem to be overwhelming reasons for doubting the importance of these correlations. This whole subject of the relationship between grades and success in careers, graduate schools, and future life will be treated in depth later.

Thus the evidence we have found has led us to the conclusion that there is much disagreement on what is measured by grades, and that different things are measured by different professors. It has also confirmed our belief that grading is often contingent upon many variable factors which are not usually seen as part of scholastic or academic performance. Joseph Katz (1962) has come close to summarizing our feelings about this argument when he said that "[g]rades seem best to measure a student's grade-getting capacity, just as acquired wealth seems best to measure a person's wealth-getting capacity." We do not believe that grades are a reliable measure of scholastic performance or an adequate measure of a good student, and we feel that those who still believe in the present grading system should revise their statement, from "they are the best indicators we have" to the more correct "they are perhaps the least worst indicators". When we present our own suggestions we will deal with the questions of whether there is any necessity for indicators.

A second argument in favor of grades which is often given deals with the area of motivation and incentives. The argument generally says that grades help to motivate students and to provide incentives for students to work harder. In considering this argument we will first examine whether grades do motivate students, under what conditions they do, and why they do. We will also discuss exactly what grades motivate students to do, and finally we will make a general evaluation of this argument.

The questions of whether grades do serve to motivate students and do provide incentives for harder work have not been dealt with extensively. Because of the complexity of the subject matter there has been little investigation; more is known about grades as measures of achievement than about grades as stimuli to

behavior. The first part of this argument is based on the assumption that if there were no grades it would be difficult to get most students to work. It is our belief that any such difficulty is based on a long time reliance on artificial systems of motivation. We agree with Carl Rogers (1967) who argues against the idea that grades are needed to motivate students because the students are lazy or are not stimulated by the educational process, saying, "The student's desire to learn can be trusted. . . . [H]uman beings have a natural potentiality for learning."

The view that grades serve as incentives to greater effort usually assumes that students will work harder to achieve higher grades or to avoid failing grades, and that they will keep working hard to maintain high grades. Studies, however, indicate that the effect of grades as incentives varies from student to student.

Birney (1964) reports that, according to students, failing or near-failing grades produce great study effort. This reaction is understandable, since most schools, including Brown, threaten their students with dire consequences if the failing grades are not improved. But low grades may not act as an incentive in all cases. The reaction of bright students to low grades does not always lead to high effort — some work less while others do not change their habits in any way. Heist (1965) in a report prepared for a distinguished college on its grading program, noted that "the mechanisms resorted to are sundry and diverse, and for some these reactions lead to the first obvious step toward a form of under achievement or beating the system (and themselves)."

Although some students do work harder because of high grades, Birney (1964) found the opposite to be just as true; high achievement may induce pessimism and cynicism. The *B* student may feel that an increment to an *A* only involves more effort and more anxiety, which are not worth the grade improvement. Many students have a level of satisfaction; a student who is content with a *B* will not work harder even though the *A* is supposed to act as a strong incentive.

In general however, we would agree that grades do motivate students who are conditioned to their use, and that they do serve as incentives to put more effort into course work, especially if the student is in danger of failing. But, even if this is so, there are a few other questions involved in the use of grades to motivate students, namely: why is the added effort induced, and what is the nature of the effort which is induced?

Often it seems that grades provide incentives to students who have strong future orientations. Grades are seen as the keys to the future — the keys to the door of the prestigious graduate or professional school, and to the door of the business or government agency. Grades also may provide incentives due to parental pressure. As Webster, Freedman and Heist have said (1962), "Interviews show that motives compelling students to achieve high grades are often

indistinguishable from the desire simply to please and obey parents, or similar authorities who happen to value high grades." As was pointed out before, students may be motivated by grades simply because of habit — they have been taught to respond to grades since they first entered school. In all of these cases the motivation and the incentive are artificially built into the educational system.

The most fundamental question must now be asked about this particular defense of grades. This is whether the type of activity generated by grades is valuable enough educationally to justify the continuation of an artificial system of incentives. It is our belief that serious doubt can be raised as to whether the increase in effort caused by the desire to receive good grades (when such an increase can be demonstrated) is accompanied by an increase in positive educational development.

Many educators feel that grades motivate a special kind of learning which is irrelevant to our times. They have argued that the inculcation of already accumulated knowledge which grades seem most often to measure, may have been appropriate to the needs of a relatively static society, but that in today's rapidly changing world such rote learning is not only out of place, but is positively harmful to the individual. What is needed is the ability to meet and conquer rapidly changing problems. Students must learn the process by which new knowledge is to be acquired — must learn how to learn (Miller 1966). This learning to learn, it is asserted, cannot be measured by grades, and if grades do provide motivation they provide motivation to perform intellectually irrelevant or harmful tasks, rather than the kind of learning which we have been stressing in this paper.

Further, we feel that if grades do provide incentives toward greater effort, in most cases the incentive will lead toward getting better grades, and not toward learning more. In many cases, these two things do not go hand in hand. Knapp (1962) says that the results of using grades often are "that the students do the least that they can get away with". In some cases, students react to the incentive by "grade grubbing" — by attempting to do anything, legal or illegal, to achieve higher grades. In others, students have their education centered on the grade and their comprehension of material, their memorization, their understanding, all center around performance on the specific tests and papers which are connected with the grade. While it is true that grades have served as an incentive for them, their greater effort, centering around the obtaining of a grade, does little to increase their learning. The potentially harmful effects of this type of incentive have been noticed by Webster, Freedman, and Heist (1962) who state that "nearly everyone knows of a few students in whom the need to achieve high grades seems to interfere with the educational process." Often this artificial motivation also has the negative effect of disillusioning students. They become torn between

the pressure for good grades and the types of effort which they must make to obtain good grades, and the fulfillment of educational aims and ideals which they hold. Disillusionment results when the educational system rewards them for the types of effort involved in obtaining grades, and not for effort directed by their educational goals.

Some people argue that a grading system can be adjusted to measure not just rote learning but also the developing of intellect. If this were so, the incentives of grades would lead toward correct learning processes. It is our belief, however, that this type of learning cannot take place in a system based on artificial rewards. The spirit of intellectual honesty and development of independence in learning which we have described as pervading the process of development of intellect are not consonant with the necessity for artificial stimulation. Further, we do not feel that the process of developing intellect can be measured by incremented letters.

Others have argued that while it is true that grades will not motivate some students, and will motivate others to seek only grades, in this latter process, some learning will take place which would not take place under a system where there are no external rewards. We might accept this argument for the retention of the grading system if we did not feel there were educationally negative efforts motivated by grades and if we did not feel that it was important to develop independence in learning which requires the removal of the crutch of artificial motivators.

In conclusion, there is little understanding of how grades motivate students, and it may be argued that this motivation is not really necessary and would be better supplied by relying on the student's natural desires, good professors and curricula. While there is considerable evidence that grades do serve as incentives, the reasons — future orientation, parental pressure, and habitual reliance on artificial rewards — are not desirable. In many (if not most) cases, the incentives lead to greater effort which is either irrelevant in today's world, irrelevant to any definition of education, or even harmful to the educational process. The practices which are encouraged do little to help the development of intellect. In fact, we will argue that the developing of intellect is hindered in a situation where the emphasis is on the pursuit of grades and the development of grade-getting ability.

Another argument in support of grades deals with the pedagogical value of competition which results from a grading system. Evans (1942) writes:

> Think of grades and marks as you will — they do remind the student that he lives in a world of competition. . . . A student who completes a program of higher education without facing the rigorous evaluations of a grading system has missed one great

> chance to learn the helpful lesson that life is full of tests and trials.

And Virgil K. Whittaker, (1966) Dean of the Graduate School at Stanford writes:

> I think it is a disservice to students who will spend their lives in a highly competitive society to try to shield them from the fact of competition during an important formulative period of their lives. . . . [A]ny attempt to pretend that we do not rank students is intellectually dishonest.

Even if one accepts this responsibility for preparation for life in a competitive society as one worthy of the university, if one compares the competitive situation in college with the one prevailing in the "real" world, the dissimilarities rather than the similarities are evident. The evaluation systems in the armed forces, business, and government do not use grades as the basis of evaluation. Instead a more meaningful system based upon the consideration of actual work and recommendations is used. The frequency of grading seen in colleges as well as the reliance on a single letter or combinations of letters is, in most cases, totally alien to the competitive situation outside of the university.

In fact, not only is the grading system alien to real-life competition, it may very well be a definite hindrance in preparing students for the competitive life after the university. Because the student is accustomed to regimented and externally imposed education, he may find himself at a loss in formulating his own problem and devising ways of solving it. Without the structured system where artificial motivation and fear of punishment take the place of individual initiative, the student may be unable to provide enough self-motivation to compete successfully. Also, real life does not guarantee a continual rhythm of rewards and regular advancement. It is obvious that the need for self-definition is acute, yet, the colleges, by using grades, may be "encouraging conformity and general mindlessness." (Miller 1966) Undergraduate education should rather emphasize self-evaluation by the student.

Grades also have another effect which is not consistent with competition in real life outside the university: they help divide the learning experience into neat packages. The college experience is not so much one integrated whole as a series of situations each a semester long. Academic work is done in bits and pieces; grades which serve as a form of reward for this work tend to strengthen this sense of discontinuity which does not exist in real life.

Let us make it clear that we are not rejecting competition in the university. A healthy competitive situation, if it does not conflict with the other aspects of education, is an integral part of a university environment. There is no reason to believe that if grades were abolished, competition would disappear. There are no grades in most of life, yet there is still competition. We do not wish at this time to go into an argument as to what level of competition is healthy, although we do feel that if it becomes the center of the educational experience, it would be very harmful. Our basic point is, however, that the competition in the university which is reinforced by grades is not at all similar to the competition present in the world outside the university. It is not at all indicative of the type of world in which students will later be living. The competition of the grading system does not really prepare students for this life, and in fact may prevent them from being independent enough to be ready for it. Miller (1966) concludes an extensive survey of the studies in this area with the statement that "it is difficult, in the light of all this evidence, to conclude that grades effectively prepare people for real life, whether by fostering 'realistic' competition or in some other way."

Another often heard defense of grades is that they are needed for businesses who wish to have some way to judge candidates for employment. Several studies have shown that grades are far less important in this respect than most people think. Different businesses use grades in different ways; no use is universal. Larger and more successful businesses which have well-defined procedures for personnel selection and promotion do not rely on grades as much do businesses where sophisticated screening procedures are non-existent. This is understandable when it is noted that grades do not answer many, if not most, of the questions that have to be answered in hiring and promoting decisions. The evaluative systems in business are radically different from the college grading system. Although they differ in many ways, most business evaluative systems take into account the merits of the individual without applying some uniform standard. The evaluations are personal, developmental, complex, relative to the task rather than to the other employees, yielding no elaborate ranking but a definition of a person's individual success. Many businesses complain that "what they really want from faculty is not grades, but personal and individual evaluation of students." (Miller 1966) It seems fair to say that employers seeking candidates to fill jobs closely related to academic work, such as research, may utilize grades, but not even all these employers do. Other kinds of employers may or may not use them. As Ralph Tyler, Director of the Center for Advanced Studies in the Behavioral Sciences at Stanford, says, "Grades are often used by business only in lieu of other information." (Miller 1966) It seems obvious that many businesses would prefer some form of evaluation in the universities that would fit more closely with their own needs. This is important, as most students are

naturally wary of any change that would jeopardize their chances for a good job; it gives reason to believe that, if anything, their chances will be enhanced if another form of evaluation replaces the present grading system.

Another aspect of this argument is that grades can serve as indicators of future success — not only in graduate schools, a subject with which we will deal presently — but in the world, after leaving the university. There is little reason to believe that grades and future success are related. The Bell Telephone Company Study of 1962 (Kappel) established a low but significant correlation between the final salary a man will reach and his college grades. Yet evidence pointing to the fact that there is no correlation seems very hard to discredit. We would have to agree with Davis (1964) who noted, "Indeed, there is little if any evidence that grades in college are or are not related to post college criteria of success, beyond prediction of graduate school achievement." A recent study by Donald P. Hoyt (1965) has concluded that "although this area of research is plagued by many theoretical, experimental, measurement, and statistical difficulties, present evidence strongly suggests that college grades bear little or no relationship to any measures of adult accomplishment."

Even if grades could predict success in different work roles they may never, as Davis (1964) states, "be an index of a student's potential for self-satisfaction in non-professional roles." We have not encountered any evidence that grading helps people to learn how to lead good lives; Miller (1966) notes that it probably discourages the development in the student of intrinsic and lasting intellectual interests, and of self-definition, because the student is guided by external, artificial stimulation.

Perhaps the hardest defense of grades to deal with is the one which argues that grades are necessary as indicators for graduate or professional school admission. Graduate and professional schools make heavy use of grades, and unlike many businesses, the majority of these schools feel that grades are valuable. (Hanlon) If any undergraduate institution were to abolish grades completely, it might jeopardize the chances of its students receiving equal consideration in applying for admission.

Defenders of grades often point to the relatively high correlations between undergraduate and graduate grades. Several facts should be remembered about this. First, it is reasonable to assume that, if as we have said, grades predict grade-getting ability, they will do so in the graduate as well as the undergraduate years. Second, people who make this argument fail to realize that the grading procedure in graduate schools is different from that employed in most undergraduate institutions. Graduate schools generally accept those students with a *B* average and then continue to give them *B*'s and *A*'s almost automatically. A grade of *C* may be considered the equivalent of a *D* or an *E* in undergraduate grading — this

is borne out by the fact that many graduate schools do not give course credit in certain courses for grades below a *B*. This narrow range of graduate school grades invalidates the attempt at a direct correlation between graduate and undergraduate grades.

There is some evidence that while at present grades are necessary for entrance into graduate and professional schools, these schools might be better off, and certainly would be no worse off, by utilizing other criteria. Some critics point to the unreliability of grades which we discussed at the beginning of this section. Others point to the high attrition rates in graduate schools — a point which may well demonstrate the failure of the present system to correctly choose the incoming students. As Miller (1966) has said, "It is just possible particularly in the light of the staggering attrition rates and the different kind of education that graduate schools are supposed to give, that we may be admitting the wrong people."

Even if undergraduate grades were of some use in predicting graduate school grades, they may fail to predict the qualities most needed in graduate schools, as well as the success of the students in careers in their chosen fields. Platz, (1959) in a study on graduate students at the University of Michigan's Department of Psychology, showed that undergraduate grade point average had a 0.10 correlation with faculty prediction of professional contribution from the students (a good indicator of some qualities important in the profession), a 0.08 correlation with faculty predictions of contributions to science, but a 0.42 correlation with graduate grade point average. Many professors in graduate and professional schools agree that success does not come in obtaining high grades. As T. R. McConnell (1967) states, "Grades do not really work in measuring and predicting the kind of ability and performance that graduate schools are really interested in." It is reasonable to conclude, as did Juola, (1961) that "success at more advanced levels may be dependent upon a totally different pattern of abilities and proficiencies from that operative at a lower level," and that grades do not really provide the kind of reliability in prediction and measurement that graduate schools really need.

A final argument used by those who defend grades for graduate school admissions is that it would be too expensive and impractical to implement another alternative and that even though grades may not be perfect, they are the only really feasible criteria which can be used by the graduate and professional schools. Even with the problem of finances, most graduate schools admit that they could "learn to live without grades." (Teaf 1965) We will return to the question of the feasibility of an alternative system later when we make our proposals.

A final general defense of the present grading system is its administrative efficiency. Defenders of the current system point to areas such as transfers between schools, scholarship distribution, enforcement of minimum academic standards, and the determination of honors as places where grades provide a fairly sound and administratively efficient evaluation.

We agree that grades are administratively efficient. Even with the differences in grades between classes and between schools, those who use grades for administrative purposes can eventually determine equivalents among letter grades. Grades provide an expedient method of evaluation, one which can function smoothly and at minimum expense. However, we feel that administrative efficiency should not be an important consideration except in those cases where the lack of it would cause an alternative to be unworkable. While an efficient administration is maintained by using grades to determine transfers, scholarships, honors and the like, if students are being judged by an unreliable system and if their education is being undermined by the use of grades, then some administrative efficiency may have to be sacrificed.

In this section, we have tried to present all of the general arguments in defense of the present grading system and have tried to refute them. There are other defenses which are very much like the ones which we have presented; these we feel can be answered by the same arguments that we have outlined. We feel that we have shown that grades have questionable reliability; that if they do provide an incentive to work, this type of incentive is often not educationally beneficial; that there is no real reason to believe that grades help prepare one for life ahead; and that businesses could very easily do without grades. We have also shown that while grades are useful to graduate schools and professional schools, there is evidence that they are not really good indicators and that they are not necessary. Finally, we have admitted their administrative efficiency.

Some might still say that grades are a necessary evil. They may not be as reliable as we would like them to be, but they do serve a number of good purposes. Even if they are only slightly helpful in areas such as motivation and the preparation of students for the "real world" they are useful. This argument continues that they are needed for graduate schools and thus an undergraduate institution must maintain the system.

We might agree with this appraisal if we did not feel so strongly that there are many important areas where the present grading system is hindering the educational process. Because of these harmful effects we are not satisfied to leave things as they are. We will now discuss at greater length why we feel that grades are harmful, weigh the advantages of the present system against the disadvantages, and finally discuss alternatives which have been proposed to see if a more desirable system might be implemented.

Before we consider criticism of the grading system, it may be useful to examine the purposes of any system of evaluation in education. Generally speaking, any form of evaluation in undergraduate education should serve two functions — an educative one which directly serves the student, and an institutional one which serves graduate and professional schools and businesses.

We feel that it is desirable for a student to stop periodically in his endeavors and to consider carefully how he is progressing in achieving the educational aims which he, his professors, and the institution have set forth. The opinions of others are very helpful in this process; by displaying his work to others, through papers, tests, or discussions, he may obtain different perspectives on his work and thus may be able to more fully evaluate his progress. In the final analysis, it is the student himself who must take these outside evaluations, and the evaluations which he himself derives, and put them to use in redirecting his work, more clearly defining his aims, and more successfully pursuing his education to meet those ends. External evaluation for this educational function of evaluation is successful only in so far as it is internalized and used by the student in a process of self-evaluation.

The second function of evaluation is the institutional function. Because of the great number of qualified individuals seeking advancement there is tremendous competition for places in graduate and professional schools and in businesses. These institutions naturally are more interested in the student's activities in the years immediately preceding his application, and they need information by which to evaluate the student's work during these years.

The present grading system discourages self-evaluation in many students. Because they become used to a set pattern of external judgment, their ability for self-evaluation is lessened. Also, because grade-getting ability is often not equivalent with abilities pursuant to aims of education that students, professors, and institutions have, the grade does not provide a useful tool from which to conduct a self-evaluation. Because of the questionable reliability of the grade, it also does not serve well in performing the second function of evaluation.

Buber, Ducasse, Whitehead and many others all agree that the student-teacher relationship lies at the heart of higher education. It must be built on a rapport founded on the basis of mutual honesty and nurtured by mutual respect. It is at this important but fragile relationship that the present grading system strikes most sharply. Because students habitually feel pressure to obtain high grades and because the professor must evaluate the student along an arbitrary scale, the relationship between student and professor becomes distorted. Even when a close rapport exists between a student and a teacher, the grade hangs over it, causing irregularities in what might otherwise be a naturally growing friendship.

Many have said that even though in some cases the grading system is harmful in this respect for some students, in cases where students and teachers are really interested in learning together, grades will be irrelevant, a slight bother, or an inconvenience, but nothing which would hinder the relationship. To us, this argument is not valid, although it is difficult to logically refute on a theoretical level.

The case of the "grade grubber," the student who, because of the pressure for high grades, views a semester's course work only in terms of the grade received for it, and views the professor only as the giver of grades, immediately comes to mind. The brazen manipulation and intellectual dishonesty of this student means the loss of any chance of his developing a good relationship with his professor. Though at Brown very few students are motivated solely by a desire for high grades, almost all (if not all) students are conscious of possessing this motivation. Even the most conscientious students are affected. Many an honest student has asked himself, as he utilized a professor's office hours, whether he is exploiting the personal contact for the purpose of high grades, or whether he sincerely wished for help. Some students who receive high grades feel unable to discern their own motives in interacting with professors whom they call friends. Even students who try to avoid caring about grades realize the impossibility of it. Because in most elementary and secondary schools the all important grade is everpresent, it becomes a normal part of educational life. No matter how much the professor and the student attempt to ignore the grade, its presence in the system comes back to haunt the student. When the old familiar desire for high grades is felt once again (usually towards the end of the semester), it leaves a sour taste in the mouth of even the best students.

The presence of the grading system affects all of the students in their relationships with their professors, although that effect varies by degrees. The desire for the seeming necessity of having good grades impels some students into intellectually dishonest actions and causes them to focus all of their interactions with the professor on obtaining his most precious gift, the good grade. Other students are repulsed by the dishonesty in their fellow students and are alienated from their teachers and an educational system which seems to accept such hypocritical behavior. Others who try to ignore the grades in their relations with their professors find that because of habit and the atmosphere around them they really cannot. In all of these cases, the student-teacher relationship becomes distorted. Whether it is right or wrong for students to be affected in these ways, whether there is a logical reason for them to react in these ways or not, the fact is, that this is what occurs under the present grading system. It will continue as long as the system in practice provides the framework which encourages the

elementary and secondary school habit of viewing the grade as a primary goal of education.

The present grading system also distorts the student-faculty relationship as seen through the eyes of a faculty member. In fact, in the judgment of many, "without its removal, the possibility of establishing a sound teaching relation with the vast majority of students is well-nigh nil." (Schwab 1954). It is hard for many teachers to accommodate their ideas of the relationship between student and faculty members with the impersonal letter grades of the present system. To some of our best teachers, the granting of the grade tends to dehumanize the whole process of education — they can never answer the question of how one fits a complex and totally individual human being into the gross categories of *A*, *B*, *C*, *D*, and *E*. Other faculty members who attempt to minimize the importance of grades eventually come to realize that not only are their students ever conscious of their marks, but also that they must give grades both to students whom they know only impersonally through examinations, and to others whom they consider their friends. It is difficult to judge the former group on such a scanty basis, and it is both painful and difficult to judge the latter group because of the personal contact which he has had with them; painful in that he must reduce their relationship to a letter, and difficult because he must attempt to be objective and fair in his judgment of these students in relation to his judgment of students whom he does not know. Some faculty members direct all their efforts to overcoming the effects of the grading system — they attempt to change their attitudes toward students they personally do not like or they attempt to adopt a testing and grading procedure which will seem more objective, less personal, and therefore less painful and difficult. In so doing, they often reduce their judgments to standardized, measurable criteria, which as we have pointed out usually do not measure any type of educational advancement. Many faculty members, faced with these problems of grading which distort their relationships with their students, "complain that to create a sound teaching relationship with [the grading system] working against them is at best very difficult and at worst only occasionally possible" (Miller 1966).

Another argument against the present grading system which we touched upon briefly before is concerned with the question of motivation. We would like to reiterate our position, that the type of effort generated by the use of grades as artificial motivators is not necessarily educationally sound effort and that often it is educationally harmful. The center of educational motivation becomes the obtaining of the grade and not learning, and often under our present system of exams and grading, the two are not parallel. Also, the dependence upon external motivational incentives can have harmful effects, causing reliance on external motivation and stunting the growth of internal self-motivation and self-discipline.

Because grades as motivators are usually dependent upon habit or some type of future orientation for their effect, the system of external motivators serves only to more deeply ingrain this habit and encourages the future orientation which, as we have shown earlier, can be very harmful to the achievement of good educational goals.

While it is probably true that without grades, or some system of external artificial rewards, student effort would initially decline, it is our belief that the habit of this reliance can be broken and replaced by the development of internalized incentives centering around achieving valuable educational aims.

The intense competition which develops around the present system of evaluation also causes substantial problems. While healthy competition may be valuable to education — and through we would hesitate to rigorously define healthy — what now passes for competition at institutions of higher learning could not by any stretch of the imagination be called healthy. The best word to describe it is one used constantly by students, "cut-throat." It is artificially induced, and the practices which characterize it are harmful to the educational process. To succeed in the "academic game" or the "academic contest", students will do anything — including being dishonest, being manipulative, or being unfair to fellow competitors. All of this is done with the purpose of finishing higher on the curve than one's fellow students, the competitors. Practices in the name of this competition often take on bizarre characteristics: "psyching-out" the professor, taking books out of the library so that others cannot read them; or getting to know a professor well to influence his judgment. Riessman and Jencks note that "McGeorge Bundy speaks in one of his papers of students who can even imitate creative thought, if that will get them an *A*." (Riessman and Jencks 1962). Many students feeling the pressures for grades can see nothing wrong with these practices. Can these practices be characteristic of healthy competition?

Nor can the effects of this competition be labeled healthy. Many people feel that much of the student alienation is a reaction to the harshness of the competition. Mervin Freedman (1964) adds that since a student is in the most compelling kind of competition with their fellows, "it is difficult to establish a relationship with them in which he can relax and simply be himself." As Riessman and Jencks have written, "if the college itself validates its students only through grades, the result may be to engender feelings of inadequacy among those who do not do well by the going standards, while not providing a diverse and exciting student life even for those students who learn to win at the academic game." Further, the high pressure of this competition often results in unhealthy physiological, psychological, and social reactions in students, thus decreasing the effectiveness of the educational process.

It is our belief that there would continue to be competition if there were no grading system, but that it would be less intense and would be healthier. The damage inflicted by the practices of the present competition and the harmful effects of it for education provide yet another argument against the present grading system. It relies on artificial inducement and distorts a more natural competitive spirit.

All of these aspects of the grading system help cause bad attitudes on the part of students. To many students, grading is one of the primary reasons for their dissatisfaction with university education (Birney 1964). They believe that grading is not objective, that "in order to get good grades it is necessary to cater to the specific prejudices of the individual professor, that the grading system forces them into dishonesty intellectually and in other ways . . . , that the regulative notion governing students' conduct at a college is not pursuit of knowledge but playing of games . . . , [and that] the active pursuit of grades rather than learning is essential if a student is ambitious for material rewards during and after college." It is this pursuit of grades as the ultimate end of education that is the most obvious result of the present grading system, and it has harmful effects upon students who have been subjected to it and conditioned by it in elementary and secondary school, as well as in college. This attitude towards grades causes feelings of guilt in many students; others, however, feel that their attitudes are condoned, even rewarded by the system. Other students begin to resent the hypocrisy of a system which seems to reward grade-getting rather than true learning and place grades at the center of the educational experience; these students despair of the gap between the professed ideals of education and the practices of the university. In many cases these students see grades as being totally divorced from those things which are educationally important to them. In such cases they must either succumb to the pressures and begin to work for grades, or they begin to resent grades and the whole educational system for taking up so much of their time and preventing what they consider significant learning. In all of these cases, the development of a negative attitude towards the university results, and this can only be harmful to the educational process.

The effects of grades on creativity have long been cited as one of the most urgent reasons for their abolition. Most studies show that grades have low or negative correlations with creativity. Kelley's study on differences between instructor grades and end-term grades showed that students who received higher instructor ratings revealed characteristics such as conformity, rigidity, and insecurity on personality tests (Kelley 1958), while a study by Holland showed that the factors most related to high grades are persistence, strong super-ego, and the like. Holland has cited Cattell's findings on the characteristics of the creative person: intelligence, emotional maturity, dominance, adventurousness,

sensitivity, introversion, radicalism, self-sufficiency, tenseness, less subjection to group standards, impulsiveness, and the like. Certainly these two groups of traits do not correlate very well with one another (Holland 1961). Not only do grades not reflect creativity, but high grade achievement may actually mean less potential for creativity. Even worse, Kelley's study implies that teachers may unconsciously tend to bias their grades against creativity.

The results are the same even if other criteria of creativity are used. Another study by Holland defined creativity as the winning of some public recognition for original work. Creative and non-creative students in both arts and sciences were given psychological tests and correlations were made. Once again, high grades and creativity seemed to arise out of different sets of qualities and dispositions. "Academic performance appears to be a function of . . . perseverance, self-control, good behavior (good citizenship), and rigidity. . . . Creative performance seems to be the outcome of a conscious conception of being original, active participation in creative hobbies, independence, [and] reinforcement by parents of similar values. . . . [T]he negligible relationship between academic aptitude and creative performance suggests that we need to use other criteria in the selection of students for scholarships and fellowships" (Holland 1961).

Thus the creative student may not only not be recognized, but he may actually suffer because of his creativity. Davis' study, which included Amherst, CIT, Cornell, Dartmouth, MIT, Rensselear, Rutgers, and Stanford, showed that faculty evaluations of students on a scale of creativity had a low correlation with the grades the same faculty gave to these students (Davis 1964). Even when the faculty is aware of creativity, the grade which they give does not always reflect it.

Another criticism of the present grading system is that it protects bad teaching. By using grades to punish, the professor can exert a large measure of control over his students. He can enforce conformity and stifle disagreement; he can discourage creativity and bring the most recalcitrant student back into his own particular orthodoxy.

Grades can protect bad teaching in several other ways. Professors may use grades to guarantee a captive audience, attaching great importance to class attendance, and lowering the student's grade because of poor attendance. While professors are probably right when they say that a regular attendance is necessary to realize the full potential of a course, in some cases students are forced to attend only because of a fear of the penalty, and not because there is anything valuable taking place in the course. In such cases students are forced to attend a poor course, or face what they see as severe penalties, yet with no guarantees that the teaching will ever improve. Should grades not be used as a penalty for lack of attendance, it is more likely that those courses which are not educationally

valuable will not be attended, with the result that the bad teacher will be forced to improve.

In another manifestation of this, the poor teacher may be an easy grader. The use of high grades to encourage students to take a course is not unheard of; the clientele for such a course is not the result of an exciting educational experience, but rather it is the result of playing upon weaknesses which the present grading system encourages. In this way also, the bad teacher is protected; in the competition for grades many students see it as more valuable in the long run to suffer through a "gut" than to take the more exciting but more dangerous course.

The final argument that we will raise against the present grading system is one which is particularly important to us. This is that the type of education which we hope to see in undergraduate institutions such as Brown will be hindered in an environment dominated by such a grading system. While this should be abundantly clear from our previous criticisms, we feel that this point should be stressed. This is particularly true of the aspects of our philosophy of education which are not part of the developing of intellect. How can one measure self-realization through a system of letter grades? How can the dehumanizing effect of grades make education more relevant to human concerns? How can one turn away from total absorption with the future, when such a system constantly reinforces a future orientation? How can the development of internal values take place under the highly pressured grading system which accents motivation by artificial external incentives? How can the standardized measurement of the grading system contribute to the viewing of the individual student as the center of the educational process? How can the disillusionment often created by the grading system contribute to any of our educational aims? How can a system which relies on external evaluation directly encourage self-evaluation?

Even when we view the developing of intellect, we see enormous difficulty in reconciling our aims with the present grading system. For example, the present system of grading is hardly adequate to measure such things as whether a student is understanding values, methods, and concepts. Even more importantly, the intellectual honesty which must characterize the developing of intellect is hindered by the grading system as we have mentioned. Finally, independence in learning, the capstone to the development of intellect, is discouraged when reliance on external motivation replaces the development of inner motivation, interest, and discipline.

Stuart Miller, who has made the most thorough study of the grading system which we have come across, and whose work we have used extensively in this section, has summarized what he views as the major arguments against the present type of grading system:

1. Grading corrupts the teacher-student relationship by alienating student from teacher and encouraging "grade-grubbing."

2. It is inaccurate, being dependent on too many non-academic variables. It is not uniform; a grade from one instructor or one college does not mean the same thing as a grade from another.

3. It encourages a mechanical kind of learning, certainly out of tune with the needs of the individual and the aspirations of the new student generation.

4. There is little evidence that it motivates students, less that it motivates them to learn significantly. What evidence there is suggests that learning proceeds more efficiently when students are encouraged to motivate themselves.

5. It serves the purpose of determining graduate school admissions, but badly. There is little evidence that we are choosing the right people for graduate school when we use grades without great amounts of supplementary information. There is evidence that graduate schools can do without grades.

6. The same is true for determining transfers, honors, and the host of other administrative functions grades presently fulfill.

7. There is a great deal of evidence to show that the grading system has no counterpart in real life, that grades are not related to success except in academically related fields, and that it is in many ways a negative preparation for life.

8. Businesses can probably manage to hire without grades.

9. There is considerable evidence that the grading system discourages and finally weeds out the most creative students, that it discourages creativity in general.

10. Grading protects bad teaching.

In balancing the arguments for and against the present grading system, we must come to the conclusion that its weaknesses greatly outweigh its strengths. While it does have administrative efficiency, and while it is used extensively in graduate and professional school admissions, we feel that the other arguments for its retention have little validity. Most importantly, we feel that aside from these two above mentioned advantages, it has little positive effect, while it does do great harm to the educational process. The system has continued to exist because the arguments have gone unchallenged, because it has acquired its own legitimacy as a "necessary evil", because people have simply used it out of habit, and because to undertake fundamental change would require action over a large area at a large number of institutions. It has become embedded in the many connections between institutions, making any unilateral shift difficult to affect.

We believe that these criticisms have demonstrated the need for changing the present system of evaluation. The following are some alternatives which have been proposed; even those who do not believe that the present system has the weaknesses which we ascribe to it should consider these alternatives to see if they better fulfill the educational and institutional functions of evaluation.

1. Increasing the number of grading categories. This suggestion was examined at Brown in the 1965 Dietrich Report and led to the adoption of pluses and minuses which are now in use. The next step in this type of alternative would be a number system, such as from one to one hundred which is used in many high schools and which was, until recently, used at Yale. The rationale for introducing more increments into the grading system is that it will allow for more accuracy and fairness in grading and will allow for a more accurate ranking of students. We believe that this alternative solves none of the problems of grading that we have mentioned. It only heightens them more by accenting the differences between grades. While the number of increments are increased, we do not believe that there is necessarily a corresponding increase in reliability and accuracy. To many students, such a change increases the pettiness of the grading system, and we cannot feel that it aids either of the functions of evaluation. Since Brown presently uses a plus and minus system, the only increase in increment would be to a number system, and we feel that the increase in incrementation would merely accent the farce of the grading system by giving the implication of more accuracy, while not really providing any more reliability.

2. The "gradeless" systems of schools like Reed and Pacific. At these schools, grades are given by professors but are withheld from the students; their use is limited to administrative decisions, graduate and professional school admissions, and placement in businesses. Behind this arrangement is a strategy designed to eliminate the emphasis on grades by ignoring them, at least in public, hoping that the practices motivated by grades will be replaced by productive learning, and

that there will be greater opportunities for self-evaluation. All this would take place while not damaging the student's chance for graduate and professional schools, or for obtaining a job. Here grades are not seen as being helpful to motivation, healthy competition, or real learning; they are seen as unnecessary except for their institutional function. While this goal of de-emphasizing grades is a good one, we do not feel that it accomplishes this purpose. In fact, it may even cause greater concern about grades, and even more inaccuracy.

Ignoring grades does not make them go away. Students who have been trained to seek grades from the time that they entered school do not forget them so easily; the bad effects of grades do still persist. The element of doubt caused by never knowing the grade may result in even more anxiety; the accuracy of the actual grade is not increased, and because students have no opportunity to discuss the grade with the professor, it may be even less accurate. Further, in most institutions that employ this system, there remains a large "flunk out" rate, and thus many students at these colleges must be concerned about the external evaluation they receive lest they be asked to leave school. While this system does result in greater opportunities for self-evaluation and thus is an improvement over the traditional grading system, it leaves many problems unsolved, and actually increases others, such as anxiety rate, unhealthy competition, and pressure.

3. The use of *honors*, *high pass*, *pass*, and *fail*. This system, recently adopted at Yale University, seems not to solve any of the problems of the grading system which we have mentioned. The aim seems to be to de-emphasize the grade and to indicate what the grades really mean. Yet the reduction in the number of distinctions by one, and the naming of the distinctions, rather than the utilization of the letter, neither significantly alter nor improve either function of evaluation.

4. The limited use of the *pass-fail* option. The inclusion of a *pass-fail* option in the curriculum has been adopted at a large number of schools. The option varies from school to school. In some schools, students are allowed to take courses on a *pass-fail* basis but not in their field of concentration. In some they are allowed to utilize the option only in their electives. In other schools they are allowed to take any course *pass-fail*. The number of courses which students can take on a *pass-fail* basis also varies from school to school, ranging from one for the entire four years, to one each semester.

This alternative has allowed students to take courses which they would not ordinarily take because of a fear of getting bad grades. The purpose itself points out one of the bad effects of the present grading system — that students often put the possibility of obtaining a good grade above the educational value of the course. The *pass-fail* option helps students to escape this, yet because it is limited in scope it does not allow for the alleviation of the problems of grading which

result from the fact that their other courses are graded. Many people feel that the student does less work in the *pass-fail* course or courses because he still feels the pressure for grades in his other courses. In effect, the student has been given an option which, philosophically, in minimizing the effects of grades, differs radically from the operative philosophy in his other courses; students are torn between wanting to pursue the educational value of the *pass-fail* course and the desire for high grades in the other courses. The most common result is that the *pass-fail* course often suffers. While this limited option does encourage students to take courses outside their realm of competence, and to put educational value above the desire for a high grade, it does not significantly aid the general problem of evaluation in the majority of courses that "count" and thus at the institution in general.

5. A completely *pass-fail* system. Such a system is like the one now utilized during the freshman year at the California Institute of Technology. In general there would be considerable improvement in the educational functions of a system of evaluation. Instead of summarizing the changes which are obvious, we will merely point out that such a system would at least partially alleviate objections 1, 2, 3, 4, 7, 9, and 10 of Miller's list. Yet the system is at this time unacceptable, because it does not serve the institutional function of grades. To unilaterally institute such a system at Brown would endanger the chances of Brown students in applying to graduate or professional schools, or for jobs. Further, because it still requires a determination of who passes and who fails, it does not totally remove all the problems of student-teacher relationships and bad attitudes in grading.

6. Comprehensive examinations. The best known and most desirable system of this type functioned at the University of Chicago. During the four years of college there were no grades; at the end of his senior year, in order to graduate, the student had to pass a given number of examinations. He received one grade in his concentration, one in his minor, and six in general education — humanities, English composition, social science, biological science, physical science, and mathematics.

The examinations themselves were written by a team consisting of members of the faculty in various disciplines, faculty members in the particular discipline being tested, and psychologists who were included to insure the reliability and validity of the examination. The test was used to generate both a grade and some extended analysis, including commentary on the student's work and recommendations for future improvement. The grade served the institutional function of an evaluative system.

Many variations of this model have been tried, using various types of examinations and various scheduling of the examinations. The latest variation is

that being planned for Hampshire College. Students will participate in comprehensive examinations at the end of each of three levels of education. Each examination will be a long-term affair, during which the student will be in close contact with the faculty members who are engaged in testing him. It might consist of things varying from papers written over a long period of time, to discussions with the professors, to the more traditional directed tests. Each examination will be structured to fit the needs of both the students and faculty involved and will presumably generate a grade as well as a supplementary analysis by the professors involved.

The advantages of the comprehensive examination system seem quite numerous. It encourages integration instead of the piecemeal treatment of an area; it lessens the tensions which arise between students and teachers during the year as each thinks about grading; it ends the compartmentalization of learning into semester packages, allowing learning to proceed at its own rate and in its own ways. It eliminates the problems in the student-teacher relationship. Nearly every objection that we raised is in some way alleviated by the comprehensive examination system.

Although the case which can be built for this alternative seems strong, there are a number of faults which lead us to believe that it is not the most desirable alternative to the present grading system. The first problem is one that we have noted before — the comprehensive examination often becomes the focus of the educational process. Students concentrate not on their day-to-day work, but on the date in the future when the examination which will determine their future will be held. A corollary of this is that an enormous pressure builds up around this examination period; this pressure which has been noticed wherever comprehensives have been utilized can be quite destructive of educational values. A second problem is that if these examinations are standardized, as was the case in Chicago, the individual ceases to be the center of the educational process and is replaced by a fixed body of knowledge which is being transferred. This hopefully will not be true at Hampshire, where the examinations will be individualized, yet this would require a much smaller student body than now present at Brown. Its feasibility, moreover, cannot be proven until Hampshire opens. As we have indicated earlier, it is our belief that total reliance upon such a system may even reduce the amount of integration which takes place. Although integration will be aided by the examination, it cannot replace the constant effort to encourage integration; it cannot accomplish in one fell swoop something which must be nurtured over long periods of time. The final question is whether such a system really provides an accurate evaluation of the student. It would seem that if it were standardized that it would favor the good test-taker, the person who would react well to pressure. Moreover, it would not reflect the student's work over a long

period of time, and would allow the student to do little work over the years if he felt he could compensate by a burst of work before the exam — a burst of work which would provide him with necessary but quickly forgotten knowledge.

Thus while such a system does have certain advantages it also has certain disadvantages. If these tests could be successfully individualized, if they can measure students abilities accurately over an extended period of time, and if Brown's enrollment were drastically reduced, we might choose this alternative. Yet given Brown's present size, we are forced to look for a better alternative.

7. Written recommendations by professors. This system is used at institutions such as Sarah Lawrence. A committee composed of faculty members meets bi-annually to discuss the student's performance and to write a series of reports, which serves to stimulate self-examination while still providing information to graduate and professional schools and businesses. In a variation of this, each professor writes an evaluation of each student at the end of each semester.

Such a system allows for a more complete, and presumably more accurate, evaluation than can be expressed in a single letter. It is hoped that this will encourage a more complete and meaningful communication between the student and the faculty member. The system should also lessen the impersonalization now characteristic of the use of a letter or a number. The main drawback to this proposal is, of course, its infeasibility at other than a very small school. Figures that we have indicate that it could not be implemented at Brown now. A second problem is that in the final analysis the evaluation is still a one-way process, as in the present system. This may well mean that the student-teacher relationship may still suffer. It may in fact be damaged even more, as such a system may encourage a pandering to what the student sees as the particular values of the professor.

The last two alternatives that we will discuss form part of our proposal.

8. Cooperative grading. This alternative has been tried in isolated courses at a number of institutions. In this system the evaluative process involves both the professor and the student. They come together at the end of the course and jointly determine the grade, though the professor still retains final responsibility for it. This approach does much to remedy some of the problems raised by the present grading system. First, it recognizes that grades do not just go away when ignored, and proceeds from this to attempt to minimize their effects. The fact of cooperation between teacher and student eases some of the strain on the student-teacher relationship. The student has a chance to speak up on his own behalf, to clarify points that need explaining, to do all those things which cannot be done today except by a visit to the professor — a visit which many students avoid for fear that they are doing it merely for the sake of high grades. It also provides a clearer idea for the student of how the professor views his work — something which is generally hidden by a letter grade. Most importantly, this system places

the student in a position where he is encouraged to evaluate himself. Instead of the test being the end of the course as it is at present, it marks a new beginning in the student's thinking about himself.

This alternative also has a number of shortcomings. The necessity of the grade at the end of the semester brings about many of the same problems found in the present system, and the cooperative meeting between the student and faculty member can turn into a session at which all of the bad practices of "grade-grubbing" as well as all of the discomforts of "sob stories" predominate. Often the ability to persuade becomes central. Also, although hopefully the grade would be more accurate, there is no reason to believe that it would be significantly more so and thus the institutional function of evaluation is not substantially aided. We will discuss the relevance of this alternative to our planned system of evaluation presently.

9. The dossier. This system, we believe, is the most desirable one among those which have been suggested to replace the present grading system. Under this system, no grades are given. Instead, the professor continues to evaluate pieces of work that the student does during a course, providing the student with as detailed a discussion of his progress as he thinks is desirable and as is possible. At the end of the semester, the student, with the aid of and under the supervision of the professor, chooses at least one piece of work — test, paper, experiment, creative work — from each course, to include in his dossier. This work, which is accompanied by the professor's evaluation of it, is sent to a central storage place from where it can be taken when the student applies to graduate schools or professional schools, or for a position in business. The dossier can also include letters of recommendation for professors, and indications of extra-curricular work in which he participates.

To evaluate the use of this system, we will attempt to see how it serves the two purposes of evaluation and fits within our educational aims, and examine its strengths and weaknesses.

When seen in terms of the two functions of a system of evaluation, the dossier seems to present the best alternative that we have discussed so far. In the first function, that of aiding the student in his education, the dossier system provides for a more direct line of communication between the student and his teacher. It is obvious that a longer and deeper analysis of the student's work which would hopefully replace the letter grade and brief comments now given would be more meaningful to the student. No longer would he have to try to decipher a grade which seems to hide rather than reveal the teacher's feelings about his work; no longer would he have to consider what the grade meant about his position in the class; no longer would he be forced to focus his attention on the many variables, academic and non-academic, which determine the grade. The dossier system, we

believe, encourages a greater effort on the part of both student and teacher to deal with the student's development, an effort which is of much greater benefit educationally than the present system which ends all discussion about education with a discussion about grades.

In regard to the second function of evaluation, the one which is seen as the greatest strength of the present grading system, it is our belief that the dossier would provide a more useful evaluation of the student for graduate and professional schools and businesses. As we have pointed out, professors now judge students utilizing a number of different criteria which are subject to a number of academic and non-academic variables. Exactly what factors the grades represent, if any, vary. Thus an admissions office or a personnel department may view the grade in a significantly different light from that which was intended — if specific criteria were intended at all. The confusion about what an individual has meant by a grade is multiplied a thousand-fold as grades given by faculty members at schools across the country and around the world are utilized in decisions about admissions or jobs.

More important than this is the obvious fact that the institution or business to which the student is applying is the best judge of what it desires in its applicants. Often, as we have noted, these criteria are not what grades measure. In some cases, such as when the institution is looking for creativity, the use of grades may even prevent the institution from determining the best candidates. With the dossier system, these institutions would be able to see the actual work of the students, rather than only evaluations of it. They can then make their decisions based on the criteria that they determine are best suited to their particular needs. Because of the fact that the professor's comments on the work itself will also be included, the institutions and businesses should be able to even more clearly determine the quality of the student's work.

Utilizing the dossier system, the accepting institutions would also be forced to view the student individually, without the grade which is now used to standardize evaluation. This type of individual evaluation would seem to be much more useful. In fact, "[b]y considering individually each student who presents himself for admission, Michigan is able to show dramatic reductions in the number of drop-outs among those who enter at the college level" (Miller 1966). It is our belief that both the graduate and professional schools and the student will benefit from the use of the dossier to serve the institutional function of an evaluative system. The institutions could judge the student's actual work, utilizing the criteria which they deem important, rather than having to accept grades which represent the criteria of people whose aims may be far different, as well as a host of academic and non-academic variables. They could do this while still having a faculty member's evaluation of the particular piece of work

available to help place the work in a perspective of the student's development and of the course in which the work was written. They will also have faculty recommendations and evidence of the extra-curricular work of the student to aid them. The student, on the other hand, could feel more confident that his work is being judged more reliably on the criteria of the accepting institution or business and that his education is not being undermined by an educationally harmful system of external evaluation.

Aside from the fact that a dossier system would better serve what we view as the two functions of an evaluative system, it has a number of other desirable features. We will discuss these before we turn to the arguments against the establishment of such a system.

It would serve to eliminate almost all of the faults of the present grading system which we have described. Because there would be no grade to focus upon, there would be much less distortion of the student-teacher relationship. The student would no longer feel impelled to be intellectually dishonest or manipulative toward the teacher in order to be rewarded with high grades; the teacher would no longer feel as if the educational system is dehumanizing. This relationship would be able to develop naturally — the evaluation which took place would be seen as useful to the development of the student, but not as the most important element in the determination of the student's future.

In the area of motivation, the effect of the dossier system would be to eliminate the present artificial system of rewards. A reliance on the potential of the students, the excitement generated by faculty members, and the qualities inherent in the educational experience for motivation would replace the assumption that students will not learn unless motivated by grades. More important, the result of the motivation should be effort that is educationally valuable, rather than educationally irrelevant or harmful.

The enormous pressure which now centers around the quest for grades and the desire to "beat" one's fellow students would also be minimized. The competition which would result would be centered around the production of quality work — work which would be judged by the student, teacher and graduate or professional schools or businesses —rather than on the getting of grades, and on the gaining of the teacher's respect, rather than on manipulating him.

There would also no longer be a weapon which could be used to stifle creativity. Removal of the present system and its replacement with a dossier system would also aid in increasing good teaching. No longer could a professor coerce students into attending unsatisfactory classes through the threat of penalizing them; no longer could an incompetent professor fill his course with students who are interested only in the high grades which he reputedly gives

readily. The dossier system would also allow the professor to choose his methods of teaching and evaluation, based on their educational utility rather than on their ability to generate letter grades. Testing could be utilized for its educational purposes more readily.

The dossier system would also help stimulate the quality which the present grading system actively discourages — that of self-evaluation. It is our belief that the development of this attribute is fundamental to the student's self-realization. Yet the present grading system supplants this greatly needed self-evaluation with external judgments, which, due to the great pressure for grades, provide the end of the learning process rather than evaluations which can serve as a new regeneration. Under the dossier system the student would be able to utilize another person's opinion of his work as a starting point, but he will be encouraged to evaluate his work himself.

In summary then, the dossier system would provide a more meaningful and more educationally valuable evaluation of the student's work, as well as a more accurate appraisal of the student's work by the graduate or professional schools or businesses. It would also minimize the distortion of the student-teacher relationship; provide for a more honest motivation with the result that learning would be less mechanical and more valuable educationally, reduce the "cut-throat" competition to a more healthy level, eliminate the bad attitudes generated by the present grading system, encourage rather than stifle creativity, cease the current protection of bad teaching, and emphasize the importance of self-evaluation. In the eyes of many, if not most, students, the result of the implementation of such a system would be a collective feeling of relief; relief from the temptation of "grade-grubbing", from the feelings of alienation from faculty members, fellow students and the institution, and from the nagging doubts about the integrity of a system which seems to concern itself with grade-getting ability rather than educationally important procedures.

A number of objections have been raised to such a system. One is that without grades there would not be the kind of competition necessary to stimulate the student's full efforts. It is our belief that such an artificial system is unnecessary for there to be competition, as students who are competitively inclined will always vie for the respect of their professors and their peers. If it were felt by faculty members that it would be desirable to stimulate competition by using grades, or ranking students in the class, this might be done, but it should be clear that such grading or ranking would not be utilized in determining the student's future. By attempting to provide a more natural form of competition, the cut-throat competition for grades now present under the grading system, and all its attendant bad attitudes, would be eliminated.

A second objection that has been raised is that under such a system, students who are used to the motivation that grades provide would not do any work. We would agree that many students would have a great deal of difficulty adjusting to a system in which there are no grades, if such a system were to be enacted immediately. Some students would not do any work and might drop out or transfer from Brown, others might do the minimal amount of work needed to graduate from Brown.

To help students in the adjustment needed from grade-oriented high school education to a gradeless dossier system of evaluation at Brown, we have certain recommendations to make. In place of this system we are proposing a *pass-fail*, cooperative grading system for freshmen. The freshman year must be seen as a transitional year between high school and college, between radically different curricula and radically different philosophies of education. The freshman year's smaller courses, the closer contact with faculty members, and the special design of the curriculum are all built on this premise. So too, is a system of evaluation in which all courses are graded on a *pass-fail* basis, with this being determined by the student and faculty member working together. The small classes and close contact with the faculty members would allow for a more honest form of motivation to take place, while the *pass-fail* distinction would provide some remnant of the incentive which grades previously supplied. By utilizing a modified system of cooperative grading, the student is encouraged to begin self-evaluation in a system whose structures (class size, teaching attitudes, curricula) are ideally suited for it.

Although we see this use of the Freshman year as one possible remedy to the problem of adjustment, we also recognize that there will still be difficulties involved. There will still be students who will no longer work because there is no system of external motivation; there will still be students who will do as little as possible in order to graduate. The former students may drop out or transfer to other schools; the latter will stay at Brown and will do little that is educationally valuable. We do not believe that either of these groups will prove to be a majority of the student body, yet even if they proved a sizable one, we feel that the system should not be geared to the students who will abuse it. The most honest, open, and educationally beneficial system should be set forth by the institution. Those students who will remain at Brown and abuse it are the same students who are now abusing the present system; the students who drop out or transfer may be shocked into a realization of what education is all about. While the dossier system will not help those students who have never, and who will never, care about education, it will prove of enormous benefit to the students who are concerned.

It is our belief that those students who are concerned about their education are in the large majority at Brown. These students would be able to re-orient their

work toward the goals of a gradeless system, and could be motivated by their interest in their subject matter, their contact with faculty members, or by the excitement present in the learning process. If this is not true, if students of the caliber of those at Brown cannot be motivated by these things, then the whole process of education is in a far worse condition than most people assume. One mistake made by those people who feel that students must be motivated by grades is that they are looking at those students who, for all of their lives in the institutions of education have been conditioned by an artificial system of external reinforcements. We would maintain, however, that if a concerted, across-the-board attempt were made to re-orient their behavior, the situation would be far different. We can only point to the situation at Brown now, where some students work tremendously hard, in certain courses, motivated by their professor or by the material, and not the grades, and where others devote a significant part of their time to extra-curricular activities which provide little in the way of artificial external rewards.

Two related arguments in the area of motivation are made against the adoption of a gradeless system. The first is that it would be a disservice to those students who are now motivated by grades, to remove the grades and therefore to remove the motivation which helps them to obtain the benefits of learning. Yet the greater work effort should not be seen as synonymous with learning. The practices which are motivated are not usually educationally valuable, while a system based on self-motivation would provide a richer variety of learning. Moreover, if a student must always have an artificial external form of motivation, he is being cheated because he is rendered unfit for those situations calling for self-motivation in which he will be placed after leaving the university.

The second of these arguments maintains that most students will eventually develop self-motivation, and that when they do, grades will be irrelevant to them. Until then, however, grades will provide an impetus for education. As we have pointed out before, the grading system does not become irrelevant to people. It affects them in one way or another, even if they consciously attempt to avoid it. This argument fails to take into account the difficulties of developing self-motivation when there exists an artificial, external system of rewards. It is our belief that by the time a student reaches an institution of higher learning, especially one of the high quality of Brown, he should be encouraged to stop his use of grades as motivators and should start to use a form of internalized motivation based on the more fundamental and honest values of the educational process. Because many students have, by habit, become very dependent upon a grading system for motivation, this will not be easy, but we feel that with a year of re-orientation, this important step in the educational process can be taken by most students.

Another objection that has been raised is that, as there will be no method of determining whether a student passes or fails a course, there will be no way in which requirements for graduation can be established. There are a number of alternatives which can be used to solve this problem. One alternative would be that professors be allowed to bring students before the Committee on Academic Standing if they felt that students were not doing the work merited by attendance at an institution of Brown's caliber. If enough of his professors felt this way, the student might be asked to take a leave of absence from Brown. While this would not affect the person who just does enough work to "get by," this person is not affected at all by the existing quality requirements for graduation. Just as professors now fail students, there would probably be little hesitation, if the professor felt it was warranted, in writing to the Committee asking that the student's status be reviewed. In fact, the requirement that the professor write a statement might encourage the professor to be doubly sure that the student's work was inadequate. Hopefully, under this system the judgment would not be based on one examination or paper, nor would the professor fail to confer with the student about his work throughout the semester. Also, under this system, the dossier would provide a much more accurate reflection of the student's work for the Committee on Academic Standing to consider, providing the student with as fair a hearing as possible.

A second alternative would be to have a faculty committee or committees evaluate a student's dossier to determine if his work merited a degree. It would be more desirable if such a committee or committees scrutinized the student's work at the end of each year rather than at the end of his four years. Such an evaluation of the student's work might also be educationally useful to the student.

What lies behind this argument against the dossier system is the feeling that somehow a degree from a college is tarnished if a grade requirement is removed. Yet while the college degree should represent the completion of the student's undergraduate education, for some students it represents what Robert Hutchins described: "The degree [the College] offers seems to certify that the student has passed an uneventful period without violating any local, state, or federal law, and that he has a fair, if temporary recollection of what his teachers have said to him." It is our belief that passing a requisite number of courses is not really a good determinant of who should receive a degree and who should not.

In an individual-centered education, the degree should represent the fact that a student has attended the institution of higher education and has proceeded through an educational process guided by the educational aims of the institution. Yet there is no real way that this can be measured; there seems to be no accurate and educationally beneficial system to judge how a student progresses through

the four years of his education. We have submitted these alternatives because we feel that there would be strong disagreement about the prospect of no particular degree requirements other than enrollment in a requisite number of courses. Yet, ideally, this is the way that we would have the system.

There are screening processes which evaluate the student as he seeks admission to an institution of higher education; there are screening processes which affect him after he leaves. We do not feel that there is any necessity for a screening process to take place within the institution. If a student has been admitted to Brown, and if Brown's system of education is honest and forthright in its aims, considerate of the student's judgment and integrity, the student should be allowed to complete his education at Brown and to receive his degree. It is our belief that the degree will not be reduced in value if some students receive it who have worked less hard than others, or if some receive it who would not receive it now. We do not believe that the degree would decrease any more in value than it already has; it is already scarred by the fact that people go through Brown doing as little work as possible; it is already scarred by the fact that many bright and creative people do not graduate from Brown or leave because of the kind of education they are receiving; it is already scarred by the practices which take place in the name of getting the high grades and the hallowed degree. We believe that not only will the degree not be lessened in value, but that it will be greatly enhanced in value if the type of educational aims and structure which we have suggested are implemented at Brown, and if Brown thereby becomes a pioneer in education among universities. The most important measure of the value of the Brown degree is the type of education that the student receives while at Brown, for this is what the degree should represent.

Another argument against the dossier system is that it will accept only a student's written work for the institutional function of evaluation. Because the dossier will probably concentrate on written material by the student, it will be to the advantage of one who can write well. While to a certain extent this might be true, we feel that there is great flexibility in this system. If a professor feels that a student's true abilities are not well demonstrated by his written work, comments to that effect would certainly have a great effect on the readers of the dossier. The presence of examples of extracurricular work and of general faculty recommendations will also help overcome this. Finally, for a number of students, the work in the dossier would not be solely written work.

The final two objections to the dossier system involve its feasibility. Basically, they refer to the cost of operation and the administrative difficulties involved in relating this system to the currently existing network of inter-school evaluation. We feel that this system can be instituted at a reasonably small cost and that with

enough effort, the present inter-school evaluation networks can be altered to support the dossier system.

The first element in determining the cost feasibility of this system is the cost at the undergraduate institution of storing and duplicating the student's work so that it may be kept over the years and sent upon request, to graduate or professional schools and businesses. We have done a bit of investigating into this area and have found that while xeroxing might be fairly expensive and bulky to store (although not unreasonably so), installation of a system of microdotting would allow a number of copies of written material to be made rapidly and stored in a very small space, and would be fairly inexpensive over a period of years. If a uniform system utilizing the dossier system could be worked out among undergraduate and graduate and professional schools and businesses, this would reduce the cost even further. If the cost of either xeroxing or microdotting is balanced against the present cost of obtaining grades, recording them, compiling grade point averages, and filling out transcripts, we feel that there would be little difference in total cost for the undergraduate institution.

The second element in computing the cost of such a system is the expense incurred by the graduate or professional schools and businesses in evaluating dossiers. We have also made inquiries into this question. In smaller graduate schools where individual departments choose among the applicants, the time requirement to read over the dossiers would not appear to be significantly more than is now spent in evaluating applicants. In most cases there would be no necessity of adding any members to the staff or freeing members to review dossiers for a semester. In the larger departments, and in graduate schools and professional schools which have admissions committees, an additional staff member would be required for each two to three hundred dossiers which are being considered. While this involves some expense, it is not at all overwhelming, considering the budgets of these larger institutions and departments, and considering the tremendously detrimental effect of the present grading system on undergraduate education. We believe that this relatively small expense involved in the dossier system can and should be incurred, as it would greatly aid the educational process and might also aid the graduate and professional schools and businesses to better select the people they want. Hopefully, the government or an education foundation would sponsor several pilot projects to gather more information about the possibility.

Thus, we do not feel that the dossier system would add to the cost for the undergraduate institution, and we do not feel that it would add significantly enough to the budgets of the graduate and professional schools and businesses to be considered infeasible.

The second feasibility objection is one which we do not feel that we can immediately answer. This is that it would be impossible for Brown to adopt such a system unilaterally unless a number of major graduate and professional schools, as well as a number of other undergraduate schools, agreed to use such a system. We feel that this is true, and thus we will presently suggest a system which can be implemented immediately at Brown. However, we are firmly convinced that the dossier system is the best possible system of evaluation at present and that it would be a great help to the improvement of higher education. What appears to be holding the vastly inferior grading system in place is the demand for grades which comes from the graduate and professional schools. If these demands ceased, it would seem that the present system could be eliminated and the dossier system implemented — or that it would be at least feasible for this to happen. We therefore feel that as much pressure should be put on graduate and professional schools as possible so that they will realize the bad effect of the present grading system and the advantages of the dossier system. If graduate and professional schools ceased to demand grades and would accept a dossier without penalizing the applicant, it is our belief that businesses, which now rely less on grades anyway, would rapidly follow suit.

It would be easy now to say that we have made our case for the failure of the present grading system and the advantages of the dossier system, and then cease our efforts to affect change. Yet we cannot. The institutional inertia which has absorbed the long-time complaints about the present grading system must be overcome. Students, faculty members, and administrators should become aware of the great damage done to undergraduate education by the present system of evaluation. Graduate and professional schools must realize that their reliance on grades is the only real barrier to a vast improvement in American higher education. We believe that the situation must change, and that Brown should commit itself to working for such a change.

Using this report as a base, we intend to marshal as many forces as possible to convince graduate and professional schools to accept the dossier. A great deal of effort and coordination will be needed to change a system so firmly established and intertwined among different institutions; yet, we feel that it should be done and we will initiate a nationwide drive to work in that direction, and we hope that readers of this report will aid us.

Because of the effect that a unilateral change to the dossier system would have on the chances for admission of students from Brown to graduate and professional schools, we are forced to recommend for immediate implementation a less desirable change. This is the encouragement of use of cooperative grading in all courses. As we have pointed out, this system has a number of flaws, the most important one being that it does not eliminate grades. Yet such a change

would recognize some of the problems involved in the present system. It would recognize the fact that all grades will not go away, and instead of ignoring them, would attempt to minimize their effects. The mere fact of cooperating in the act of grading may make the grades more accurate and may ease the strains on the student-teacher relationship. Most importantly, the student would be placed in a situation where he must look inside himself and evaluate his progress. This alone should do much to reduce his reliance on the artificial and external motivation now provided by grades.

Yet, such a system can only be considered an interim measure. It hopefully will ameliorate some of the problems of the present grading system, but because grades will still remain, it cannot solve them. We intend to do everything in our power to bring about a context where a dossier system can be implemented. We are not claiming that the dossier is the best possible answer which can ever be found, but it remains the best which we have been able to find in our study. What is most important is not the institution of a dossier but the provision for the best possible education. We think that the elimination of the present grading system and the institution of the dossier will add to this. It is in order to improve the educational system that we have made this study of evaluation, and we hope that it will prove fruitful in aiding in the fulfillment of the two aims of evaluation that we have expressed, and of our aims of education in general.

19. TEACHING METHODS; COURSE AND TEACHER EVALUATION

Directly related to curriculum, testing and grading is the area of teaching methods. While this is not an educational structure, and is a very personal matter for the professor, we feel that everything that can be grouped under the rubric of teaching methods is vitally important to successful education. Therefore, we will briefly discuss the importance of teaching methods and will present certain general guidelines for styles, attitudes, and practices which may be followed by professors. These will, we feel, aid in translating our educational aims into actual practice.

We feel very strongly that good teaching is at the center of good education. As Stephen Orgel and Alex Zwinderling have observed, "the excitement communicated (to a student) is on the whole more important for him than the material thought."[280] Through his teaching the professor can, better than any structure, help in the development of intellect, self-realization and the development of a spirit of self-study within both individuals and the whole institution.

There are a number of different styles which professors can use in their teaching that will be helpful. Again, to quote Orgel and Zwinderling, "There are various abilities and techniques involved in such [good] teaching. A teacher may for example, teach primarily himself. He can project his personality, his love for the subject, his sense for what is important. Or else, his talent may lie in his sensitivity to the student's unsophisticated responses, to *his* sense of what is important, and *his* personality. Such a teacher may be able to reach the student in a way that teachers who feel their first duty is to the material cannot. He takes the student seriously and can refine and direct his naive reactions and prevent him from drifting toward apathy or alienation. Or his talent may be primarily theatrical in nature, the talent of the dazzling lecturer to whom the class is an audience."[281]

In all of these different styles of teaching, there are some basic attitudes which we feel should guide undergraduate teaching methods. The most important one, and the one which we have attempted to stress throughout this report, is that the teacher must be committed to aims of education and must attempt always to teach with these in mind. In line with the aims which we have expressed, a number of attitudes follow which we feel are proper.

In general, the attitudes of the faculty in teaching should be ones which attempt to focus on the individual student and the providing of an education which is relevant to him. They should also be attitudes which take cognizance of the special nature of undergraduate students and circumstances of undergraduate education today, and which attempt to develop intellect within this framework. Moreover, as Orgel and Zwinderling point out, "teaching also requires a continual appeal to what the student at every level knows and feels and understands. In addition, education is a human activity; the teacher's values, his personal commitment to the subject are never irrelevant. He must support the student's seriousness, direct his enthusiasm, and move him away from indifference or mechanical performance of his work."[282]

Perhaps the main problem in the area of teaching attitudes which must be overcome to fulfill our aims of education results from a situation described by Sanford. "The typical faculty member is by training, by inclination, and by requirement of his position a specialist in an academic subject. He is devoted to the advancement of his speciality, by research and by teaching, and it is as a specialist that he expects to make his career."[283] This often results in what we have called narrow professional teaching or, the teaching of the expert. A professor who is too specialized in his approach and who expects avid experts whose interest is only in his subject, and who organizes his material from this assumption and presents it as received doctrine, is not really contributing to a liberal education. While in graduate education the "expert" approach is permissible, it is not desirable in dealing with undergraduates. The professor who is most concerned with presenting his discipline well, covering all of the material in his pre-prepared lectures, and in eliciting all of the correct answers in his discussions, while ignoring the developing of the intellect of his students, has, we feel, poor teaching attitudes.

It is very difficult to make suggestions in the area of teaching methods because there is no one set of proper teaching methods for a given situation; rules, even complex and flexible ones, are therefore hard to formulate. Different people function best in different situations. Different subject materials lend themselves to different methods of teaching and learning. A lecture, a discussion, an informal talk, a mistake in class — almost any situation involving students and teachers, or only students — can prove to be a valuable learning experience or an educational

disaster. The university should be flexible in allowing different methods of teaching to be used in different situations and should not attempt to establish rigid rules in this area. The university should urge faculty members to investigate various teaching methods and patterns and to carefully consider what types of methods will work best with different students in differing situations. While we feel that the university should encourage experimentation in teaching methods, we feel that when experimental and innovative teaching methods are used only because they are different from accepted methods, they can harm the educational process by appealing only to a rebellious attitude or by not engendering trust among the students and among other members of the faculty.

There are three basic types of learning situations which the university can structure and which we will discuss in terms of teaching methods. These are the lecture, the discussion, and the tutorial. A variety of learning experiences can be derived from combinations of these three situations; the three are not by any means exhaustive and the university must not prevent other types of learning situations from developing. Extracurricular activities, spontaneous student movements, unorthodox intellectual experiments, and situations evolving completely apart from the campus community often lead to the best learning situations. For this reason, the university should make every effort not to be restrictive in regards to activities which might result in such learning.

Each of these three basic teaching-learning formats — the lecture, the discussion and the tutorial — can be very valuable. Each is appropriate for certain situations and different professors can teach better under different of the formats. We will attempt to present some characteristics of each of these and to suggest a few general improvements in their use by professors.

The lecture is perhaps the most well known method of college teaching, and the one which receives the most criticism. The lecture developed during the Medieval period, when printing was a very tedious process and vocal communications had to form the base for transference of knowledge. Today it is the dominant method of teaching in universities.

Anyone who speaks before a large group of students three times a week for an entire semester should have something to say which will contribute to the development of those students' intellects. If the professor only rehashes reading material or merely presents factual material, he is not contributing significantly to the education of the students. Further, if a lecture is dully delivered it can be the deadliest experience a student will encounter in college. Some professors, no matter how good they are as scholars and teachers, do not have the abilities necessary to be good lecturers, abilities which may involve such non-scholarly traits as showmanship and humor. Other problems with lectures result when students must note-take to the point where listening, and comprehension, is

impossible. Being afraid to miss any of the "important material" that the professor is presenting, the students write down as much as they possibly can; yet often when students emerge from a lecture with pages of notes, they do not know what the lecture was about. Since few students can write down everything, and since most students will gain little from a lecture if they do not understand the conceptual framework and organization, this extensive note-taking is often harmful to a good lecture. Presently, part of this problem results from the testing system which, as we described earlier, often evaluates students on their ability to feed-back specific notes from a lecture. Another problem with lectures is that they do not allow for student response to the ideas presented in the lecture. While question and answer periods often exist in lecture courses, these provide very little real opportunity for a large number of students to reflect on, question, and discuss the course material in a valuable manner.

To help offset some of these problems with lectures, we will make a few suggestions. The first problem we mentioned, that of the presentation of material which does little to help develop the intellect of the student, will not be solved structurally, but rather by the commitment of the lecturer to the aims of education which we have set forth. If the commitment is realized in practice, this problem should, for the most part, disappear. Nor can the second problem be solved structurally. As we pointed out, in some cases there are professors who are lecturing whose teaching talents do not really rest in the art of lecturing. This should not be seen as a condemnation of these men, for being a good lecturer is not the equivalent of being a good teacher. It is our belief that these professors should perhaps use other teaching methods, such as the discussion group or the tutorial, or should modify the basic three-lecture per week structure of the course. Some possible modifications would be the use of a discussion section (which we will discuss presently), the increased implementation of a question and answer period, or possibly even the increase of office hours.

Those courses which presently demand that the student write frantically for the period of the lecture without really being able to understand what is being said would not remain unchanged if our aims of education were adopted. The elimination of examinations which require the mere regurgitation of the professor's views should prove a significant step toward alleviation of this situation.

To further solve the problem of students being unable to realize the full benefits of the lecture because of a fear of not writing down enough of what the professor says, or because of a lack of understanding of the basic organization of the lecture, we recommend that in most, if not all, lecture courses the lecture notes should be mimeographed and handed out before class. Pertinent passages of reading assignments, facts which the professor feels are important, problems

which he sees as crucial, important questions, and the organizational pattern of the lecture might be included. Frantic note-taking would cease; the student would actually listen to the lecture, being able both to follow its development and to think about the ideas being presented. The professor could cease the attempt to rush through a lecture communicating factual material which sets a context for the student's work, and could concentrate instead on presenting central methods and conceptual frameworks, on providing various interpretations and integration of the material, and on communicating an enthusiasm for the area of study.

There are certain problems involved in the mimeographing of lecture notes by professors. Those professors who do not read their lectures but who work from lecture notes would be required to translate certain parts of these notes into a form which would be clear to the students. It might tend to freeze lectures as professors who desire to make minor changes of emphasis or interpretation would hesitate to begin the process of re-writing. Perhaps the most fundamental argument against this is that it would eliminate the need for the lecturer. While admitting the difficulties involved in this, we strongly disagree with this last conclusion; mimeographing lecture notes, as we pointed out, would help the lecturer, rather than eliminate him. Moreover, most of the strengths of the lecture system could not be communicated solely through lecture notes. The performance, the delivery of the material by the lecturer, the ability to clarify points or respond to questions and challenges, the communication of enthusiasm, and the necessity of gauging the student's progress, all require that there be a lecturer as well as lecture notes.

Another suggestion centers on the provision for discussion in lecture courses. No lecture should be given without providing the opportunity for discussion and individual attention. Because the demands upon a faculty member's time would not allow for this in a large class, steps must be taken to allow time for interchange in other ways. William C. Devane has noted the importance of individual attention:

> Whatever the quality of the course, a program made up entirely of lectures is an extremely impersonal education and one wonders if such programs are not substantially responsible for the large number of students who drop out of colleges where such conditions prevail.[284]

But how does the professor find time to hold the sessions necessary to reach the individual student? Devane offers:

> One of the country's most distinguished universities . . . employed 887 graduate students for the instruction of its undergraduates. A common pattern of instruction consists of two lectures a week by a teacher of some experience, with the third hour discussion conducted by the graduate student. Such courses are by no means necessarily poor; that depends upon the quality and the conscientiousness of the lecturer and the interest and skill of the hard pressed graduate student.[285]

While we agree with the use of students as discussion leaders and teaching assistants in lecture courses, we are not sure that the students used should be graduate students. In many cases, the best graduate students receive the research fellowships; consequently, the less capable ones are often forced to teach. Even though this is not a very significant problem at Brown, other problems with graduate students as instructors are. Often they are not vitally interested in their teaching roles; they often keep students at a greater distance than do other members of the faculty. The graduate students are also in the process of becoming professionals in their fields, and thus often tend to be more narrowly professional in their teaching than do the professors. Finally, and most importantly, there are not enough graduate students at Brown to fill all of the positions which would be created by having discussion sections in all lecture courses.

We therefore recommend that undergraduates be used as discussion leaders in lecture courses. Undergraduates who know a professor well, and who have completed the course with him, could well serve as leaders of discussion sections of that course. These discussion leaders could meet every week as a group, or individually, with the professor, to discuss the lectures and the course material. Through this they would come to a greater understanding of the course material and area and of the educational process in general. There would be numerous advantages in this system. First, there would be an opportunity for discussion and individual attention in the lecture course. Second, it has been shown in many situations that students can be very successful in aiding the teaching of fellow students. As Martin Meyerson has said, "The teaching assistant, closest in experience and age to the student can be more responsible to their needs than the older professors."[286] Student-led discussion groups have proved successful at many experimental colleges. Third, these student assistants, sitting in on the lecture, would be a valuable source of feedback for the professor. Finally, in their meetings with the lecturer, they would challenge his conclusions, and force clarification of points which are unclear. It is our belief that the use of undergraduates would prove beneficial to both these students and the professor, and to the students in lecture courses in general. Questions have been raised both

about financing such a program and about the number of students who would be interested in such work. First, we do not think that these students would need to be paid; their reward would be the opportunity to work closely with a professor, to come to better understand the material, and to help others in the educational process. There are no empirical findings at Brown bearing on the second question, yet our experiences with the Group Independent Study Project, and the number of applicants for Meiklejohn Society, lead us to believe that a large number of undergraduates would participate — in fact, we believe that there would be enough volunteers to provide the leadership for discussion groups in all lecture courses. We will discuss this further under implementation.

Another alternative to provide discussion groups for lecture courses would be to divide the students in the course into small discussion groups and have the leadership of the discussion rotate among the group. We have rejected this as it is our experience that this often leads to the degeneration of the discussion, which results in poor attendance. In some courses, however, it might be worth trying.

We feel that these suggestions will greatly improve the quality of the lecture course at Brown. We will now discuss the discussion course, which includes both the discussion course led by a faculty member and the discussion sections of the lecture which will be led by undergraduates. In analyzing the discussion section in terms of teaching methods, we will attempt to outline some problems in discussion leading, and to recommend certain ways in which discussions should be led.

The following example cited by Riessman and Gustfield gives an excellent example of one way in which a professor may lead a discussion group incorrectly:

> He [the professor] proceeded asking questions and soliciting answers from the students until he received an answer he regarded as satisfying. Students also volunteered and he called on them, at times ignoring some of the volunteers. . . . The participation of the group grew as the hour went on, and most of the students volunteered at one time. The instructor's questions set up tensions of finding the 'right answer', tensions which would be dissipated when he moved on to the next point. Several times a student interrupted to make a suggestion, but the instructor did not encourage him. This same student, at another time, proposed a logical but false solution to a problem; the instructor shrugged his shoulders, and said 'maybe' and passed on to others in his quest for the answer he wanted. Occasionally dialogue would develop among the students. The instructor would sit back and listen, and then return to the earlier question

> at issue. Five minutes before the hour's close, the instructor himself began to answer the major questions with which he had opened. He said that the relation among the various terms of headings was not additive. Then he stated the original question again and read the answer from the syllabus, explaining each term. . . .[287]

As should be clear from this quotation, the discussion, although generally considered superior to the lecture by most students, is a teaching method which is difficult to perfect. A boring lecturer is no worse a teacher than one who, having already formulated the answer to his own question, stalks the room until he gets the desired answer. Discussions with no leadership, no organization, and no sense of direction are equally undesirable. Some balance in discussions must often be struck between those in which a few students dominate, keying their comments on the impression that they wish to make on the leader, and those in which the discussion leader attempts artificially to make everyone contribute an equal amount. A similar balance must be made between those discussions which are geared entirely to the students' responses with little participation by the leader, and ones in which the discussion leader is in actuality lecturing as a result. Discussion leading is no simple task.

As in the lecture, the discussion should be led with the aims of education which we have set forth constantly in mind. The obvious result of this is that the leader should concentrate on the developing of intellect in the students and the encouraging of their independence, rather than on the presenting of material and the training of skills. The discussion leader should not be disheartened if all the material which was to be covered that day was not, so long as what we have described as the developing of intellect might have taken place. A second result of this consideration of the aims of education would be increased attention to the individual student. The discussion leader should be sensitive to the needs and desires of the student, particularly those which might cause behavior which would be detrimental to the progress of the discussion and to the development of the student's intellect. The student who constantly dominates, the student who appears only to seek the approval of his peers, the student who seems afraid to say anything, and the student who never comes to the discussion section, may all be in need of guidance. An attempt should be made by the discussion leader to seek out such students and to discuss their problems with them.

Our next suggestion concerning discussion leading is that the type of activity for which the discussion section is designed must be carefully delineated. If the purpose of the discussion is to allow the student to better understand a given lecture or text by asking the discussion leader and other students questions about

the material, it should be led differently than a discussion which deals more directly with the developing of the student's intellect. Often in discussion groups, some students wish only to have their questions about the material answered, while others become bored when the discussion is being used only to help some students to understand the material; other students, who did not understand the material in the first place, become lost when the discussion deals entirely with interpretation. Ideally, the discussion would focus on interpretation of material; the first aim, that of clarifying material, would be carried out during office hours or in specially designated times such as the first few minutes of the discussion, or in a completely separate discussion.

As we have previously noted, it is very important that a balance be struck between what is termed "instructor-centered" discussion groups and "student-centered" ones. An "instructor-centered" group revolves around the strong authority figure who attempts to teach, guide, and mold his students during the discussions. The "student-centered" discussion group is more concerned with encouraging student participation and leadership in the discussion. It is our belief that this second category is much more desirable for the developing of intellect and independence in students. In one example of this, McKeachie has summarized certain studies which demonstrate that "student-centered" discussions achieve the aim of applying concepts better than do "instructor-centered" discussions.[288] In endorsing "student-centered" discussions, we would like to emphasize that we believe that there must be a figure who, as the instructor, organizes and guides the discussion. A discussion must have a leader, but he should not necessarily dominate it. He should not be the center of the discussion group to whom everyone turns for answers, to whom everyone addresses their remarks, and from whom come the topics of discussion and the central ideas of the discussion.

Our final recommendation concerning discussions is that the number of participants in the discussion group should range between ten and fifteen when possible, and should be no less than seven and no more than twenty. It is nearly impossible to have any of the desired personal interchange in a group larger than twenty; a discussion group under seven usually fails to yield enough interchange. A number slightly larger than twenty may be acceptable depending upon the average number of absences.

The final basic method of teaching, the tutorial or independent study, is one which we hope will be utilized more often in the future at Brown. As we have indicated, it is our hope that students will become progressively more independent in their learning as they progress through Brown. For this reason, we envision a vast increase in the number of people who will be doing what is now considered independent study in their upperclass years. We also hope that

many upperclass lecture courses might actually be run as independent studies or tutorials centered on the lectures, where an organized set of lectures forms the base for independent work by the students. In any case, we feel that the professor should be allowed to give the student a completely free hand in his work. A paper should not be required to "prove" that a student has been working. The faculty member should only have to indicate that he is satisfied with the student's work. (Under a dossier type of evaluation this would naturally follow, but we feel that it should be the case even if a dossier is not implemented.)

Perhaps the most challenging area for teaching will be the freshman courses. Here, the professor will have to guide the re-orientation of these students to the educational system at Brown; he will have to help them develop writing and other skills necessary for college work which the high schools have not provided; he will have to construct, in large measure, a new curriculum. Lectures, discussion groups, and independent work will all be taking place within each freshman course.

It is in these courses that the undergraduate teaching assistants will be most valuable. Whether the courses involve lectures or not, at least one undergraduate teaching assistant should be working with each faculty member. This will help provide the individual attention which is so important for the re-orientation of the students, and for the initial development of their intellects according to our aims. As has been shown in the experiments analyzed in *More Power to Them*, and in other sources, students' attitudes must be changed if they are to be able to assume and maintain the independence of learning which we advocate.[289] Because students at experimental institutions are often placed in new situations, without any attention being paid to their reorientation, the chances for the success of the experiments are minimized. We have attempted to overcome this. While we are placing great faith in the close contact between the freshman and the faculty member and undergraduate teaching assistant in order to facilitate this change in attitudes, we have also tried to re-orient the incoming students through the very structure of the courses and through an adaptation in the system of evaluation.

Another area upon which we would like to make several brief comments is that of the use of technological devices in education. A number of sources which we have read described devices ranging from films to electronic learn-in-your-sleep machines. While we believe that many technological advances can aid in the educational process — for instance, films have shown themselves to be of great value in the Brown anthropology department — we do not believe that these devices will ever replace, or dramatically improve, teaching. After surveying various new devices, McKeachie says, "The research to date indicates that television, films, teaching machines, and books can be used to achieve

educational objectives. Their usefulness varies depending upon the objective, the characteristics of the students, and the excellence of their materials. Research at present reveals no danger that these devices will eliminate the need for face-to-face contacts between professors and students."[290] While members of the Brown faculty should be encouraged to experiment with their teaching methods, and while such experimentation might include the use of technological advances, these should not be viewed as a panacea for improving teaching. We are, in fact, slightly dismayed at the possibility that educators might be carried away by this gadgetry, overusing it, spending money and time on delightful toys which do not really serve the educational process significantly.

A final mention should be made of the use of evaluation in teaching. As we have indicated, a change in the philosophy of education such as we are recommending should result in the end of the present emphasis on the transmission of material, and thus an end of the use of examinations which call only for regurgitation of notes. We have also tried to indicate the need to view tests, not primarily as generators of marks, but rather as instruments to help in the development of intellect. Further, testing which is designed to obtain information about the teacher's success in accomplishing his aims should be separated from that which seeks to evaluate the students. Finally, we have devoted a tremendous amount of time and effort to show that grades undermine the educational process, and that if they are to be used, if only on a temporary basis, they must be used carefully, always keeping the educational aims of the university in mind.

This is only the most superficial discussion of the problems of teaching methods. We firmly believe that teaching is at the heart of the educational process, yet because it is such an individual process, we are hesitant to attempt either an in-depth analysis, or the presentation of detailed criteria for success. It should, however, be consonant with the aims of education which we have set forth, and to do this it might well follow Hermberger's criteria. "Does it simply pass on to him what others have learned, or is it designed primarily to develop his ability to find his own solutions to his own problems? Does it contribute to his continuing intellectual growth and activity, or does it merely give him dulling answers to his questions of the moment?"[291]

The next structure with which we shall deal is that of course and teacher evaluation, a structure which is closely tied both to the subject of evaluation, and to teaching methods. Such a structure has two basic purposes. The first is to help provide the faculty member with the judgments of the students whom he teaches, so that he can more accurately evaluate the structure and content of his course, and the success of his teaching methods. As Joseph Katz has said, "Teaching without assessment[] leads almost necessarily to a cycle of repetition. Only

detailed, sophisticated, continuing assessment can make teaching experience cumulative, instead of repetitive, and thus instruct the instructor."[292] Course and teacher evaluation serve a second purpose by aiding other students in choosing courses, through the supplying of information about courses upon which students can base their decisions.

The basic problem in any form of course and teacher evaluation is that there are no universally accepted criteria for judging a course or a teacher's success. This problem will be emphasized at Brown if the changes which we are recommending are implemented, for the individual student will be the focus of the educational process. The divergent needs and desires of individual students will make it even harder to determine the basis upon which a course should be judged; different students react more favorably to different types of subject matter, different approaches to teaching, and different personalities in their professors. Yet there remains a distinct need for some form of course and teacher evaluation.

Since the evaluation will be such an individual matter, we believe that a meeting between the individual student and the faculty member in which the course and the teaching methods are discussed would be the most effective way of achieving the first aim of a course and teacher evaluation system. In some cases, it might be desirable to discuss at this meeting both the evaluation of the student by the professor, and the evaluation of the professor and the course by the student. This form of discussion, hopefully, would encourage a free exchange of ideas and opinions between the student and the professor, enabling the latter to receive, directly from the individual student, feedback on the effectiveness of his teaching methods and on the course as a whole.

Yet, given the present state of the university, there are several weaknesses in such a system which must be recognized. Many professors resent being evaluated by students; others feel that students do not have the expertise to tell them anything valuable about the nature of the course or the teaching methods. Many students are intimidated by the prospect of a direct confrontation with their professors in which the course would be discussed. Though a de-emphasis on grades would alleviate this, as would the placing of the meeting after the end of the course, this limiting of the student's candidness might often remain. Unless the student was encouraged to carefully prepare his thoughts, the discussion might not reflect what he really believes about the success of the course and the teaching methods utilized. Finally, what the student says would most likely vary from time to time in the course — for example, earlier in the course the student may not understand the professor's intention for the development of the course. One answer to this and to the problem raised by grades would be to hold the discussion after the conclusion of the course. While this could also supplement

the course meeting which we previously recommended be held after the final examination, it would not provide the professor with information from students about his conduct of the course which would allow him to make adjustments before the course was over.

While we believe that this is basically the most effective system of course and teacher evaluation, because of these weaknesses something must supplement it. Also, to fulfill the second aim of course and teacher evaluation, the opinions of students who have taken the course must be made available to other students. Currently, the most widely used system of course and teacher evaluation is the course evaluation booklet, which began when several students at Harvard University published a *Confidential Guide to Courses*. This guide has served as a model for many schools — including Brown, which bi-annually publishes the *Course Analysis Booklet* — and for over forty years the principle has remained the same. The student-written booklets give details about readings, exams, papers, and professors with a fair but critical approach, occasionally attempting to stimulate the sales of these booklets by injecting humor and sarcasm. Methods of compilation vary from direct student-student interviewing to prepared questionnaires.

It should be noted that course-evaluation questionnaires often yield returns of less than fifty percent. In the end each analysis tends to be rather arbitrary. Such supplements usually fail to provide accurate course and teacher evaluation, so we will not suggest it as a supplement to the direct student-faculty dialogue.

Something better than a guide to courses must be developed. We believe a logical solution to be the portfolio. Under this system a portfolio would be compiled for each course in the University. The first item in every portfolio should be a statement of the professor's idea of what the specific course should comprise. This note should also include the professor's ideas on how he plans to teach the course and what he expects from each student who is enrolled in it.

In addition to this statement by the professor, the portfolio would contain evaluations written by students who have taken the course. No questionnaires would be sent out to any student. Everyone in a class will be asked to write two personal evaluations of the course. The first evaluation would be written approximately one month after the beginning of each semester, and would contain information directed primarily toward the professor. Each student would be recording his first impressions of the course and of the person who teaches it, including his opinion of the professor's approach to the subject and how he feels it could be improved. It would be read by the professor and might well serve as the basis for future meetings between the student and the professor. We would like to add that in the few cases at Brown where professors have taken the

initiative to hand out course evaluation questionnaires, very high returns have been obtained.

At the end of the semester the student would write a second note which would include information about himself — age, semester, current concentration, educational background — and about his concept for the goals of the course and how the professor succeeded in achieving these goals. Also included in this second note would be factual information about the size of the class and the number of tests and papers assigned. Finally, the student should make observations about his first evaluation — whether it was valid when viewed in the perspective of the entire semester, and whether the professor responded at all to it. This second note would also be read by the professor and would then be attached to the first note. The student and professor would of course still be encouraged to meet to discuss these evaluations.

All of the pairs of letters would then be placed in the portfolio, along with a second note from the professor which would provide a resume of how he viewed the semester's accomplishments and failures. When the portfolio is completed — hopefully all the students in the course would have provided two notes — it will be placed in the library, available to all students. The portfolios from previous years should also be kept for student and teacher reference. In this way, students would be able to obtain a wide variety of opinions on a course, opinions which represent a significant amount of thought. Students would also have some idea of the general context under which these evaluations are made and would be able to know something about the people who made the various evaluations. Finally, more complete insight would be provided than just the general statements that a course or teacher is good or bad.

We realize, however, that not all students have the time or desire to read through stacks of portfolios when choosing courses; incoming freshmen would be swamped if they had to do so much research during the first week in college. Thus a book of extracts is needed. This new form of course evaluation booklet would deal with every course and would attempt to distill the contents of the entire portfolio. To prepare such a distillation, the course would be researched and written up by someone who has neither taken the specific course, nor had a course with the same professor. Hopefully this would increase the impartiality.

This pamphlet would not be as instrumental in redesigning or in choosing a course as the entire portfolio would be, yet it seems to be the best compromise in condensing the portfolio while sacrificing the least number of facts, opinions and impressions which are found in the original.

With the use of the direct interview and the written evaluations, we feel that the first value of course and teacher evaluation will be well served; and with the use of the portfolio and pamphlet, we feel that the second value of course and

teacher evaluation would be well served. Together, we feel that these proposals will aid in our aim of encouraging self-study and in keeping Brown's education vital. We also feel that the proposals in this structure would indirectly and sometimes directly aid in the process of development of intellect and would encourage the viewing of the individual student as the center of the educational process.

20. CALENDAR; LEAVES OF ABSENCE; FOREIGN STUDY

Another structure which has been the focus of considerable interest over the past several years is the university calendar. In 1966 the Cammarian Club completed an extensive report on the calendar which, after examining certain alternatives, recommended that a student-faculty-administration committee be instituted to both review the report and to make those recommendations it thought necessary to improve the calendar. This committee was appointed and made several suggestions, some of which we will discuss. While we will make certain recommendations about the Brown calendar, this section will not deal with the calendar at great length; the interested reader might also want to consult *The Report of the Calendar Committee of the Cammarian Club*.

We agree with the student-faculty-administration committee on calendar reform, which felt that the present system, with certain modifications, serves Brown quite well. Some people, however, have suggested that the present system of two semesters of roughly equal length, running from September to January and from February to May, be replaced with either a quarter system, a trimester system, a semester system which would have semesters running from September to December and from February to May, or a 4-1-4 system which would have two four month semesters separated by a one month period in which some type of activity may be carried on.

Both the quarter system and the trimester system have several attractive features. Both allow for maximum plant usage, being readily convertible to year-round use. To many, these systems are attractive, as they provide increased opportunity to graduate early. Finally, they are seen as a way to schedule longer breaks between semesters, giving students and faculty members time to relax after the pressure of examinations. While we would agree that it is desirable that the university's physical plant be utilized to maximum efficiency, particularly during the summer, we believe that there are other ways in which this can be done without becoming involved in the problems that the quarter and trimester systems raise. We will discuss this further in the section on implementation. As

for the second argument, it is our belief that there are benefits which are peculiar to an undergraduate institution; we feel that students should not be encouraged to rush through college, nor should the calendar be based on a view of college which sees it merely as a hyphen between high school and graduate or professional school. While longer breaks between semesters under the present system may well be justified, under revised systems of examinations and evaluation, the pressures which now exist would be minimized, as would the need for more extensive vacations.

There are also several problems which these systems would raise or aggravate if implemented. They would increase the number of courses in a given year; at the same time, the scope of these courses would, of necessity, be even more sharply limited. The course continuity — which we feel is one of the most important reasons for most calendar reforms — would in all likelihood suffer even more as the fragmentation of both courses and the student's time increases. The quarter system would result in students finishing the quarter in June, thereby hindering their chances for summer employment. Finally, there would also be an increase in time and expense involved in more registrations and the necessity of adjusting plant and housing for the different numbers of students in attendance.

The proposal which would result in the institution of a semester which begins early in September and finishes in December, followed by a semester which begins in mid-January and ends in early May, is generally a result of concern over the pressures generated during the final examination period. It is argued that a longer vacation, particularly one in which the student will not have to be working on papers, would allow students and faculty members a necessary chance to relax after exams. There are two other arguments generally associated with this system. The first is that it allows for greater continuity, particularly in the first semester, where the Christmas recess is seen as disrupting the educational process. The second is that because the second semester ends earlier, students' chances for summer employment would be increased. It is our belief that the pressures which are now caused by the system of final examinations should not be alleviated solely through the scheduling of vacation periods; if the university wishes to deal with the problems involved in these examinations, it should do so directly — as we suggested in the section on testing — with the result that the need for longer recesses would diminish drastically. The second and third arguments have some strength; yet, balanced against the problems raised by such a change, they do not seem compelling. The main problem is that there is no way in which the length of courses could escape being cut; this is compounded by our plans for final examinations which, by requiring a longer period of time, would necessarily result in an even earlier beginning of classes under such a system, which we feel would be undesirable.

A variation of this system is the 4-1-4 system. This system allows the utilization of the one month period in many different ways; common to all is the attempt to provide a different type of educational experience than that which occurs during the semester. In some cases, the month is used for general education courses, and in some cases for special departmental seminars. In other cases, it is used for whatever the student wishes, though he must write a paper about his experiences. In still other cases, one intensive course is taken by students. At some institutions, the one month period is completely free. While this alternative has its advantages, we do not feel that it would be valuable in the context of the educational system which we are proposing for Brown. To the extent that it is designed to relax the pressure after the final exam period, it would be unnecessary under the system which we are proposing. Also, such a system would reduce the actual time which could be spent during the regular semesters and would thus cut down on the educational effectiveness of the regular semester courses. Often this type of system is proposed to provide an exciting period in between the regular semesters of work. We hope that our regular semesters of work will be exciting enough so that no such period will be necessary. Finally, this period is usually intended to encourage integration and what we have termed in this paper the aim of self-realization. While these are certainly desirable, we do not think that these aims should be artificially structured into one month periods but rather should be encouraged to occur naturally during the whole year. Thus, we sympathize with the aims of the 4-1-4 calendar, but we do not feel that it should aid the type of educational system which this report has proposed.

There are a few recommendations which we would like to make. The first is that the final examination period be extended. As we suggested in our testing section, examinations should be given out before Christmas vacation, and would fall due at times staggered through January. A time at the end of the examination period would be left to allow for meetings between faculty and student teaching assistants and students, to discuss the examinations and the course as a whole. The same extension of the examination period would also take place in May. While the reading period would no longer officially exist, its aims might still be accomplished during this extended examination period. There would also be a flexibility in how this extended period would be utilized in individual courses so that nothing need be lost from the present benefits of the reading period.

A second recommendation concerns the foreign language institutes; these intensive courses in a foreign language and culture were discussed briefly in the section on the curriculum. The institutes would run approximately ten weeks. We feel that some could be run over the summer, allowing for plant usage and for the accommodation of students who did not wish to satisfy this requirement during

the school year. Institutes might also be conducted during the first ten weeks of the semester. Sometime during a student's four years, he would arrange to take part in one of these institutes either during the summer or early in a semester.

Another recommendation might be considered. This is the possibility that the various one day holidays, falling during the first semester, be arranged so that they fall on either a Friday or a Monday, providing for a long weekend. In addition to this, the holidays would be arranged so that an equal number of extended weekends took place both semesters. While this recommendation was made by the student-faculty-administration committee on calendar reform, there has seemingly been little response to it.

Our final recommendation in the area of calendar is that there should be as much flexibility in the length of courses as possible. While we agree with the present semester arrangement for courses, and while the majority of our curricular recommendations will conform to this, we foresee the possibility that flexibility will be needed in the group independent studies courses and the independent study courses, and in the work which focuses in the community. Because these might require more or less time, strict requirements for inauguration and completion of course work should not be required. Standards should be set, but individual cases should be allowed to deviate without excessive difficulty when educationally desirable.

We will briefly discuss this area further in the section on implementation.

Another structure which we are very interested in but which we are forced to deal with very briefly is that of leaves of absence from the university for faculty, administrators and students. It is our belief that such leaves can be valuable for all members of the academic community.

For faculty members, such a leave may allow a process of renewal to take place away from the routine of the campus. Research into the latest developments in the field and into new views of education can occur, as well as the redoing of courses. For all faculty members, a leave of absence provides a chance for revitalization, as well as a period in which they may evaluate their own actions as teachers and scholars. Administrators as well might benefit from leaves of absence. They may investigate new developments in their own specialties, be these publicity or budget. They may also be able to take advantage of such leaves to consider broad questions concerning the university as a whole, the directions in which it is moving, and the goals which it should have.

In both of these cases, the self-study aspect of the educational aims of the institution will be served. More importantly, the time provided for study, thought, and renewal will help keep the institution growing, alive and vital.

We feel that it is quite important that the concept of leaves of absence should be expanded and unified. Too often, it seems, that professors must delay the

research work which they feel is valuable, or the development of a new course, due to a lack of time. If it is possible, leaves should be made more regular and should come more often. While we have no specific proposals in mind, Professor Durand has already made the suggestion that the university institute a double sabbatical program in which leaves would be granted every six or seven semesters, rather than every six or seven years. He proposed that the present summer stipend be eliminated, and the money now budgeted for this be used to finance the new system of leaves of absence. We feel that this proposal merits further attention, and we would hope that some expansion of the system of leaves of absence for faculty and administrators will take place.

With regard to students, we feel that the university should encourage leaves of absence not just for the failing student but for the educational benefit of the individual student regardless of the specific nature of the educational reason for desirability. As we stated earlier, there are many ways in which valuable education can go on outside of the university, and for many students an alternation or mixing of education at a university and work, travel, or pursuit of interests outside of the institution can be very valuable. Many students see leaves of absence as desirable, but also see them as unnatural, as the result of failure to succeed at the university. The university should encourage leaves by making information available on possible activities which students may wish to engage in, and by attempting to protect students while they are on leave. This second effort is especially important in view of the problems posed by the draft. As we have said in our discussion of the work-study type of curriculum, we feel that getting away from campus can be very valuable for many students in fulfilling various aspects of developing intellect, self-realization and self-evaluation, and we believe that while the timing of the leave should not be rigidly structured as under the work-study program, the university should aid in encouraging the taking of leaves of absence by the provision of information and protection of students mentioned above.

One way of utilizing leave of absence is by study abroad. The possibilities of foreign study have been, in the main, ignored at Brown; yet this area is one which, we believe, can be of great benefit to both the student and the university. Its values have often been set forth, and given the aims of education which we have provided, it could prove exceedingly helpful. It can encourage a broadening of perspectives, can enable the student to view — and possibly absorb — varying conceptual frameworks, can provide an opportunity for the developing of self-realization, and in numerous ways can facilitate the developing of intellect. It does all these things in ways which would be difficult if not impossible to duplicate in an American university. For the university the values are almost as great. An innovative climate may be maintained and encouraged through the

influx of new ideas and suggestions, while a diversity rather than a homogeneity of viewpoints may be developed.

There are presently at Brown no well developed programs to aid students who wish to study abroad. In fact, such students are usually not encouraged but rather discouraged by the obstacles in their paths. To change this situation we will make several recommendations which are basically in accord with some of those made by Nicholas Robinson and his committee in *Brown University and its International Involvement*.[293]

The first recommendation is that the University appoint a counselor for students interested in foreign study. This official could examine the possibilities for foreign study, and could compile lists of opportunities which would be made available to all interested students. Such information is presently gathered by the National Association on Foreign Student Affairs, the United States Student Abroad program and by many other groups, but few students know of its availability. Such a counselor could also evaluate existing programs, help students find a program which will suit their particular needs and interests, and if possible, might even organize special programs for Brown students abroad.

The second recommendation is that the university establish a committee on study abroad, perhaps as a sub-committee of the Committee on Academic Standing. This committee, possibly chaired by the counselor for study abroad, would help to plan programs centering on international study both at Brown and abroad. As was noted last year by Mr. Robinson, there are a number of opportunities under the International Education Act of 1956 which could help finance new and creative programs at Brown for study abroad. Such a committee as we have recommended might well be able to obtain funds under this bill which could help finance both individual and institutional projects.

Our final suggestion involves the attitude of the institution. The university should recognize the value of study abroad, even when it is not being utilized for the development of a concentration. To quote from Mr. Robinson's work, "[t]he general policy of restricting study for credit to those who will work in their field of major study abroad, may be short-sighted. There is some advantage to study abroad for its own sake, for the contact with different cultures, for the new ideas and new places which may inspire new interests and understanding." The university should encourage study abroad and should not place obstacles in the way of those who desire to do it.

It is our belief that the structural changes will provide great benefit to the university. They may also indicate at least the beginning of a change in attitude — a change which must take place if the students and the institution in general are to obtain the educational benefits of foreign study.

21. COUNSELING; EXTRA-CURRICULAR ACTIVITIES; DEPARTMENTS

Because of the increase in the student's freedom to determine the course of his education resulting from the institution of the individually centered education which we are recommending, academic counseling should take on increased importance. In considering the form which the counseling system should have, we will first review some of the weaknesses of the present system and by examining their causes, will attempt to minimize these problems.

The Cammarian Club Report on Academic Counseling, presented in the fall of 1965, summarized among several other good points the reasons for dissatisfaction with the then-existing system — a system which has remained basically unchanged. The complaints raised, which still apply today, were that:

> 1. A sizable fraction of the faculty counselors do not understand the mechanics of the curriculum.
>
> 2. Many faculty counselors are uninformed about courses outside of their departments.
>
> 3. Counseling is perfunctory, the sessions often lasting only long enough to sign the required registration forms.
>
> 4. Worst of all, some counselors seem not to care enough to make an effort to help the student.[294]

According to the report, the basic problem is that while many faculty members and administrators are interested in and proficient at academic counseling, many others — because of their temperament, lack of knowledge, or the demands upon their time — are not. Often, as Riesman and Jencks put it, "only a few advisors have the gift of helping students discover their potential."[295]

There are a few other problems with the present counseling system that this report did not deal with. One concerns the present method of assigning counselors to freshmen. Advisors are assigned on the basis of tentative indications of choice of major by incoming freshmen. This system encourages early tracking into majors, particularly departmental ones, and adds, with the future orientation of the students, to early development of a harmful narrow professional orientation. Often, counselors are familiar only with the workings of their own departments and tend to cultivate these tentative majors only in this departmental direction. As Adelson has pointed out, "[a]cademic counseling at the freshman and sophomore level frequently produces a guerrilla warfare between disciplines, each seeking to capture the promising talents for itself, and without too much regard for the student's needs and interests"[296] — a tendency which, as we have noted, is also manifested in departmental introductory courses.

Another problem with counseling involves the lack of a concerted effort to attempt some type of reorientation of the students towards the types of educational attitudes and goals which are valuable in the pursuit of the educational process. A final problem with the present counseling system involves counseling of concentrators; because at present the majority of departments have only one or two concentration advisors for large numbers of concentrators, many concentrators feel that the system provides too little individual attention.

Keeping these problems — as well as our aims of undergraduate education — in mind, we will make several recommendations. These recommendations for the improvement of the system of academic counseling seek to achieve three basic goals: that accurate information about courses and the operation of the curriculum be made available to all students and that all students be made aware of how to get it; that those people who will be most effective in and most desirous of passing on this information be made counselors; and that the relationship between upperclassmen and their concentration advisors be more than perfunctory. The proposals which we will make should not be viewed as rigid; they are intended only as suggestions of how such goals might be reached without encountering the same problems now found in the academic counseling system.

At the beginning of the freshman year — in fact, during Freshman Week — the student is assigned a faculty academic counselor. He is also presently assigned to a student counselor of the Meiklejohn Society. It is our belief that in the freshman year as we envision it, the student need not be assigned a faculty counselor. We feel this way for several reasons. The student will have relatively limited and fairly self-evident curricular options. He will probably be in closer contact with the faculty members and undergraduate teaching assistants in his

freshman courses than he is now with his advisor. The proctors and upperclassmen that he casually encounters will be able to help him in examining the entire curriculum or specific courses. We feel that it would be virtually impossible to develop a system in which there could be maximum benefit from such faculty-freshmen counseling. Finally, the narrow professionalism which early faculty counseling often provides is harmful and could be reduced by eliminating this faculty counselor.

Instead of a faculty academic counselor, we recommend that the student be assigned to an upperclass academic counselor. This upperclass student has recently emerged from a similar period of non-specialized study and is more likely to understand the curricular choices and the attitudes of the students in the freshman year. He is more likely to be able to empathize with the incoming student, recognizing the problems he faces and the adjustments he will need to make.

The Meiklejohn Society can be seen as the prototype for these student counselors, although an enlarged group might be needed. The student counselors would be encouraged to return to school before the freshmen register, so that they might be able to spend time in familiarizing themselves with any changes which have been made in the curriculum, or in discussing the best ways in which to help the incoming freshmen. The group would also continue to meet during the year to talk over problems they have encountered in counseling or to gather information about freshman reactions to the curriculum — information which would be quite valuable in institutional self-study. In addition to this student help, a great deal of counseling aid by professors would also emerge from the close teacher-student contact in the freshman courses.

Counseling for upperclassmen requires different arrangements. The upperclassman needs counseling in two areas — that of his concentration, and that of courses taken outside his area of concentration. Presently, upperclassmen meet with departmental or interdepartmental concentration advisors at the end of the sophomore year to plan their concentration pattern. Because of the numbers of concentrators, this meeting is often merely perfunctory; after this meeting there is often little contact between the student and the advisor. As there are no counselors for upperclassmen aside from the concentration advisor, the student is forced to ask the concentration advisor about courses outside the department, or else to find another faculty member who is both willing and able to answer his questions.

Because of the changes which we are recommending in concentration requirements, there would be little necessity of requiring one faculty member to advise all the undergraduates who are majoring in his department. Each student would work out his individual concentration — which may or may not consist of

what the department presently requires — and have it approved by a member of the faculty or by a committee (like the CAS) composed for such a purpose. This faculty member committee would then act as the concentration advisor for the student. It is our belief that allowing both the student and the faculty member to choose their partners in counseling will encourage a much deeper, less perfunctory relationship. To prevent the duplication of the present overloading of some faculty advisors, there would have to be some limit as to the number of students who could have the same concentration advisor. Any student who could not find an advisor to work with could go to the committee on concentration counseling that we previously mentioned, which could help him find an advisor or develop a concentration. With this system in effect, there would no longer be a need for a department to designate one member as the concentration advisor for the department. Individual members of the department would be acting as concentration advisors for students whose interests lie close to theirs. It might, however, be useful to have one member of the department or a representative of an interdepartmental or non-departmental committee available to answer questions about the courses and concentration patterns recommended.

There would be no institutional framework for counseling about courses outside of the student's concentration. Yet, it is our hope that concentration advisors will be encouraged to help the student in this area. Also, as the counseling load will be reduced by the elimination of structured faculty counseling for upperclassmen, all faculty members will be better able to help students. This aspect of the counseling system should be aided by our program for course and teacher evaluation which we outlined earlier, and by our recommendations for the university catalogue which we will make shortly.

Counseling in general should benefit from the extra-curricular programs on education which we will outline shortly, from the closer contact between teacher and student found in the freshman courses, and from the closer relationship with other students nurtured by the use of upperclassmen as counselors and as teaching assistants in lecture courses.

Just as with the area of teaching methods, the area of the counselor's attitude is both fundamental to the success of the counseling effort, and almost impossible to describe. Some of our own feelings about this attitude are summed up by Pusey: "All through the educational program it is hoped that counseling services will become less and less concerned with immediate vocational consideration; less concerned, that is, to decide for a young person what he should do to earn his living than to help him to see what he can make of himself, what he might become, and especially what role knowledge and learning can have in this process."[297] All the counselors, whether student or faculty member, should be made aware of the educational aims of the institution. And all of the actions taken

by the counselor should be done in light of these aims. The most fundamental aspect of these aims is the one which provides the foundation for this entire report: that the individual is the center of the educational process. It is the individual student, with his particular educational background, who must be aided in his reorientation during his freshman year; it is the individual student with his particular interests who must be encouraged in his in-depth work in an area; it is the individual student with his particular problems whom the counselor must aid.

The next two areas which we will discuss are those of extra-curricular activities and departments. In both cases, we intend at a future date to write in depth papers on these subjects and for the purpose of this paper, we will only make a few statements which are necessary for the clarification of our earlier proposals.

In the area of extracurriculum, one which we consider a very important part of the total university educational experience, we will make only two suggestions for now. We feel that these will help complement the educational aims and the curricular structures which we have previously set forth. They will, hopefully, aid in creating the type of atmosphere which is conducive to a good liberal arts education.

Our first proposal is that the university institute a non-credit, extra-curricular seminar on education for freshmen. This seminar, taught by upperclassmen and financed by the university, would attempt to pass significant questions about education to the first year students. Readings about education would be recommended, and education in general would be examined in terms of its aims, and the means used to accomplish them. The Brown educational system would provide the focus of the course as its goals are evaluated, and its principles of procedure weighed. Such a program would help the incoming student in his reorientation from attitudes which, in most cases, would hinder him from gaining the full benefits of the type of education which we are recommending. It would aid in his self-realization as he would be made to think about why he is in college; it would allow him to more fully understand what is meant by terms such as the developing of intellect; it would facilitate the process of self-evaluation as it would encourage him to analyze his previous educational experiences as well as the ones in which he is presently involved; it should, in sum, help enable him to obtain the richness of humanly relevant experience which an undergraduate education can provide.

We are attempting this year to accomplish some of the aims of such a seminar. The Group Independent Studies Project is again operative with roughly 140 students involved.

The second suggestion which we would like to make is one which has at least indirectly been made numerous times in this paper. This is that contact between members of the university community is essential — whether it be between student and student, student and faculty member, or faculty member and faculty member. While the first category is a natural (or perhaps unnatural) result of the living facilities (the subject of another possible paper), too often — as Professor Borts, among others, has pointed out[298] — the only time there is contact between students and most faculty members is when the students come to office hours to talk about grades or tests. We hope that the changes which we desire in the testing and grading systems will not lead to an end to such visits, but will rather encourage the type of relationship between student and teacher which will allow for more natural interchanges. Closer contact in the smaller classes during freshman year should also help to bridge the gulf between students and faculty members. It is also our hope that more extra-curricular contact can be encouraged. Resident fellow functions, seminars and lectures, the Meiklejohn Society, et cetera, can all be viewed as ways in which students and faculty members are brought into contact with one another. Professors might be encouraged to eat in refectories by offering them free meals; living units might be encouraged to invite faculty members to eat with them simply as guests rather than as lecturers; and so on. While institutional devices alone cannot spark this type of interchange, we feel that the type of atmosphere which we would like to see created at Brown depends upon this type of contact, and we hope that it will continue to be encouraged.

In regard to contact among faculty members, many of the sources which we have read have complained about the isolation of disciplines within the university which adds to the type of narrow professionalism in research and education that we fear. Structures such as the science and society seminar seem to aid with this problem, and we hope that the faculty will attempt to encourage this type of contact on a larger scale.

These two suggestions are only made as addenda to the other recommendations in the report, and soon we hope to begin a paper specifically on the value of extracurricular activities within the type of educational scheme which this paper develops.

The feeling that the departmental structure has helped contribute to many of the weaknesses of the undergraduate education which we discuss is implicit throughout this paper. Often the departmental structure encourages narrow professionalism. It does this by isolating the faculty into disciplinary groups without encouraging contact between the different groups. It does this because, as Sanford has pointed out, for many faculty members, allegiance is first and foremost to the department and not to the total education being provided to the

student at the institution.[299] It does this because courses and programs are designed by the departments, and often the faults of the distributional and concentrational patterns that we have discussed are because departmental concern for its discipline outweigh considerations of the total liberal arts education. Finally, it does this, in that the structure of the department discourages the development of the type of third tier and freshman course orientations which we have described as being important in this paper; that is, the development of coherent interdisciplinary or non-disciplinary programs in the educational system.

The negative effects of departmental orientation are hard to overcome. Faculty members have gone through programs which sought to develop them as professionals within a discipline. They are hired to teach a particular discipline. The department, for the most part, determines what courses will be taught, and how they will be taught, and at the university, professors are judged primarily by their activities within the discipline.

As some schools have recognized these difficulties, they have attempted the remedy of eliminating departments completely. This has been done at Sussex and is proposed for Hampshire College. These schools are organized around broad areas instead of departmental disciplines. Yet, with all of our criticisms of the departmental structure, we reject this option of eliminating departments. Departments serve many important functions at a university which we believe are best served by the departmental structure. Departments are certainly important for the graduate school; they are administratively important and efficient in the undergraduate institution; they provide a vehicle for the development of strong programs which might not be possible without them; they are often necessary for the attraction of a top-flight faculty; and they often encourage the development of intellectual coherence among courses within a discipline or area which might not occur without the departmental structure.

Yet, if departments are not eliminated, the harmful effects of departmental orientation which we have discussed must be checked. Primarily this involves a change in attitude. We have attempted to increase the possibility of this happening with this report, by attempting to make clear some of the problems which we see present in the departmental orientation as it now exists. We only hope that members of the faculty will make considerable efforts in this direction.

Structurally, we hope that through the introduction of the freshman course program and the third tier program, the harmful effects of departmental orientation will be reduced. These courses will not be run by the department; rather they will be coordinated by interdepartmental committees. Further, the change in the nature of the concentration requirement will hopefully decrease the narrow professional concentration which often marks the departmental oriented

concentrations today. We will discuss these structures further in the section on implementation.

Our only other suggestion in the area of departments is that the departments attempt to consult students as much as possible on the types of courses which will be offered as departmental courses and in the types of concentration patterns which will be recommended to students. We feel that this will be helpful for the provision of relevant course material within the discipline.

A further discussion on the topic of departments — which will include questions of tenure, hiring and firing, decision making, and the disciplinary organization of a department — will be undertaken in a follow-up report of this paper to be completed soon. We have included this section for now, only as a clarification of the other sections of the report which reflect on the departmental structure.

22. CATALOGUE; SELF-STUDY PROCEDURE

A few years ago, Professor Wolf recommended that there be some expansion of the university course announcement. He further recommended that one- or two-page descriptions of courses be given by professors and then be put on file for students to read. These descriptions should be part of an expanded Brown University catalogue, which would also include a discussion of the educational aims of the university and the procedures used to carry them out. A third addition might fill a void which is now sharply felt in the university. There is now no one place in which a student can obtain information on the various special programs within the university. Such special programs include various educational opportunities, such as summer grants, special departmental programs, as well as employment pertaining to a field study. While the Honors Council, the Cammarian Club and the Class of 1969 have at various times begun work on a booklet dealing with such programs, it has never been completed.

We believe that these three items should supplement the material already found in the catalogue. A student-faculty group headed by the registrar or a representative from his office would take the responsibility for such an expanded catalogue. One main problem remains. This is the problem of printing costs. We are not certain as to whether printing costs for such a volume would be prohibitive. If it were found to be so, we feel that the information which we have just outlined should be assembled, and a minimal number of expanded catalogues printed. These could be kept in the library, in the registrar's office, or in the resident fellows' rooms; whatever arrangements are made, the information should be available for students who desire it and for the self-study groups in the university.

We have already discussed the importance of institutional self-study in our philosophy of education. Because of the importance of this, and because of the failure on the part of most universities to have an effective system of self-study, we are recommending that the university create a structure which will carry out

this aim. In this section we will outline some aspects involved in present attempts in this area, and some possible forms that a self-study structure might take.

In this report, we have stressed the importance of setting forth and adhering to functionally definable aims of education, and of creating structures which can be logically tied to these aims. These structures are never perfect and are, in the words of Franklin Patterson, "approximations" in a continuing process of development. We believe that some structure is needed through which it can be determined whether the aims are worthwhile, whether they can be achieved, and whether the structures being used are appropriate and are functioning properly; it is only through a self-study structure which operates continuously that failures in the aims and structures of an institution can be located and remedied quickly, without permanent harm being done to the educational system.

Many schools attempt to fulfill the aim of institutional self-study with occasional self-studies which are deemed successful because they bring about sweeping changes. It is our belief that the very fact that such changes are necessary indicates that this technique is not entirely successful. When self-studies are spaced several years apart, inappropriate or malfunctioning structures are allowed to harden into near permanence. Further, this permanence often results in a belief in the inability to change the structure, or in an inertia which makes significant change difficult even under the most intense pressure.

Presently at Brown, various groups evaluate some of the components of the university from time to time and make recommendations for change. Yet such evaluations are random, and take place at irregular intervals. While any such evaluation is valuable and should be encouraged, it is our belief that the institution should create a structure which will continually be in the process of institutional self-study. This is the only way in which the needed depth and scope of self-study can be achieved.

There are two levels involved in institutional self-study. The first level is the theoretical examination of the aims of the university and of the structures employed to implement them. The aims should be continuously reevaluated as to their abstractness, their coherence, and their cognizance of the realities of life in the university and in the community at large. At the same time, the structures should be analyzed to see if they can logically be tied to the aims of the institution. The second level of self-study attempts to work not on a theoretical level, but on the day-to-day functional operations of the institution. The operation of the structures in practice should be examined to see not if they can, but if they are, fulfilling the aims of the institution. The aims should also be reexamined in light of practice to see if they can be fulfilled.

Within each of these levels it appears that two processes must take place if the self-study is to be meaningful. The first, as Kenneth Keniston describes it, is that

the "college itself . . . must have rapid access to good information about what is happening." The importance of reliable information cannot be overemphasized, nor can the dangers of implementing change without sufficient data be minimized. The second component of self-study is one which we have borrowed from the Ducasse Report. Though it was first used in Ducasse's discussion of integration in education, it seems entirely applicable in self-study; self-study cannot take place unless "care is taken to make sure that both teachers and students are at all times fully conscious of the educational reasons for their doing just what they are engaged in at the time." An atmosphere in which all the members of the university community are asking such questions is one which is singularly conducive to institutional self-study.

There are a few specific proposals which we will suggest for carrying out the self-study procedure. The first is a "diagnostic summer session" which Professor C. L. Barber suggested to Hampshire College. His recommendation was that a number of members of the academic community — students, faculty and administrators — be paid to stay at the institution during the summer for the purposes of evaluation and innovation. This could serve for theoretical examination of aims at a time when there would be no other demands on the time of the participants. Such a session might also be conducive to the formulation of recommendations for the institution. All of the material gathered by the other parts of the self-study procedure could be utilized during these sessions and an overview could be obtained.

The day-to-day operations of the institution would be scrutinized by a number of different committees consisting of students, faculty members, and administrators. These committees would be organized along the lines of division among the structures which compose the university — for instance, one committee would deal with curriculum, one with testing, and one with grading and student evaluation, one with teaching methods and course and teacher evaluation. Each committee, aided by the research facilities of the university, would examine the aims which are affected by the area and the structures which compose it. For example, the self-study committee on testing would gather information on how tests are being used, and how they are being administered. They would then determine how well the educational aims of testing, and ultimately the educational aims of the entire university, are served by the present testing procedures. They would then make recommendations which might affect only a small number of courses or which might change the entire institutional testing program. In some cases, structural changes could rectify the problems that they found; in other cases, the aims might be found unworkable or undesirable and would have to be discarded.

Similar procedures would be followed by other committees. The self-study committee on the curriculum would examine the different types of courses in order to determine if they are achieving their particular ends. The self-study committee on evaluation might examine possible revisions of the system of evaluation as well as such things as the effect of the dossier system on the admission of Brown undergraduates to graduate or professional schools, and the difficulties encountered in the student's reorientation to a no grade system. In this way, all the structures of the university would be continually and systematically examined to see if they are fulfilling the aims of the university, and if these aims can and should be fulfilled.

The freshman year poses special problems in the operation of any institution for undergraduate education. For this reason it is our belief that a separate committee might be instituted to deal with the peculiar problems raised by the freshman year. The adjustments of the freshman to both a new educational and social system and the operations of the first tier courses, would provide sufficient basis for the work of a separate committee. This committee might also make suggestions for Freshman Week and freshman orientation based on their knowledge of the problems faced by freshman. There would also be a separate self-study committee on the third tier courses. While the self-study committee on the curriculum would also provide a vehicle for examination of the freshman courses and the third-tier courses, due to their special features these courses should be the provinces of separate self-study committees.

Above all these structural committees there would be a large coordinating committee which would operate during the academic year in much the same way as the self-study committee would operate during the diagnostic summer session. This body, chaired by the President of the University or a university official in charge of institutional innovations, and including the chairmen of the structural self-study committees, would be responsible for the coordination of all these other efforts at self-study. It would evaluate these efforts and would suggest new procedures which the structural committees could use. Its second major task would be to analyze the recommendations which the structural committees have made, and then make their own recommendations. It is desirable that the Provost, the university official who is responsible for the budget, sit on this committee, as financial resources play an important part in determining the direction of the university.

The final task of this committee would be the constant updating of a paper such as this which would serve as a foundation for the university's operation. It has been an underlying theme of this work that an institution should have a coherent philosophy of education from which educational structures can be derived and on which the everyday operations can be based. This philosophy of

education, and the descriptions of the structures which are logically tied to the institutional aims, would be revised if found necessary. The paper would also be supplemented with information gained from studies of particular parts of the university such as the refectory, or the housing system, or from studies which deal with the functions of the university which we have been forced to virtually ignore — those of research and community service.

We have several comments about the use of these self-study structures. In all of them, students, faculty members, and administrators should be appointed. In this way a sizable number of members of the university community will be involved in the process of self-study, facilitating the development of an atmosphere conducive to self-study and providing a forum for varying perspectives. The self-study committees should also convey to the university community their desire for information; it should be clear that they are open to, and eager for, new ideas and criticism of their own actions. It seems particularly important to obtain the views of new members of the university community, such as new members of the faculty. In many cases, particularly in the diagnostic summer session, the views of people brought in from outside the university would be useful in producing effective institutional self-study. Finally, the self-study committees should not equate the absence of prolonged complaints with the successful operation of the educational structures. Often the absence of protest about various aspects of the university is not indicative of satisfaction, but rather indicates apathy or resignation. It should be the function of the self-study structure to prevent such a deadening of the atmosphere, to keep the spirit of self-study and change alive at the university.

Concluding this section, we feel that it is not important whether the specific types of committees which we have recommended are instituted, but we do feel that it is very important for there to be an organized structure for continual self-study within the university and that as many people as possible should be involved in serving this function.

23. IMPLEMENTATION AND FEASIBILITY

Most of the proposals for institutional change which we have encountered have a flaw that proves fatal. This is that the changes require an expenditure of resources which the institution — be it a corporation or a university — cannot possibly afford. Throughout our work, we have been conscious of this fact and have tried, as best we could, to propose educational structures which are desirable and functional according to our aims, and feasible given the naturally limited resources of Brown University. In this section we will examine the feasibility of some of our proposals and discuss their implementation.

We had anticipated providing in this section a selection of the facts and figures which we have accumulated, in order to prove the feasibility of our proposals. For a number of reasons, however, we have decided to forego this. Our main reason is that such a discussion would not be of general interest to most readers of this report, both at Brown and outside; we are more than willing, however, to speak about this subject to those people who are interested. The second reason is that while we have spent a considerable amount of time in obtaining figures, and while these figures tend to bear out our belief in the feasibility of the proposals, the figures are often not as accurate nor as up-to-date as we would like. Finally, we do not feel that the specific figures are as important as the general demonstration of the feasibility of our proposals which we feel is possible without them.

We will deal first with our proposed curriculum. It is our belief that, though there will be an initial cost involved in redoing many of the present courses, our curriculum will not require any more expenditures in its day-to-day operations than does the present curriculum. This will be true because under our proposal there will be little if any increase in the number of courses and thus in the total number of official teaching hours which would require the use of additional faculty. While it is true that a great deal of faculty teaching time will necessarily be spent in the freshmen courses if they are to be limited in size, the teaching time will not be added onto existing demands, but will be made up by reducing

demands from other areas of the curriculum. In general, this reduction will involve reducing the number of courses and number of teaching hours spent in upper level departmental courses. One possible way that this might be done would be to eliminate those courses with enrollments of under a certain number of students. Presently at Brown, about 37% of the courses under the two-hundred level have less than nine students; while relatively few students are involved in these, many other students are forced into a number of very large classes. If courses with under nine people (or at least some of these courses) were not given, the relocation of faculty members could be accomplished. While this rule should not be absolute and while it represents a very arbitrary judgment, it is one way in which better faculty usage could be gained. An early registration could be required for courses which in the past had not generated sufficient interest; if fewer than nine students signed up, the course would not be scheduled. If there were still pressure from those students who were interested in establishing the course, it could be approved as a group independent study, but would not be considered as part of the professor's course load.

Another way in which this could be done would be to require departments, depending upon their size, to provide a certain number of faculty members to teach non-departmental courses. This would involve a departmental decision as to how to cut upper level courses or how in some other way to utilize the faculty.

Another alternative would be to offer courses in alternate years. While this is already done in certain cases, the practice could be expanded. These are only a few possibilities. We are more than receptive to others which would allow for better faculty usage.

Some other aspects of our proposals would also help in making our curriculum feasible. The use of undergraduate teaching assistants would serve to relieve some of the burden from faculty. Also, the encouraging of more independence in learning on the part of upperclassmen would help. For instance, students would be enrolled in upperclass lecture courses, but would be more independent and would require less assistance from the faculty members. In this way, larger classes would be possible in upperclass years. Although some aspects of our proposals — such as the increase in group independent study and independent study — will require more faculty time, it is our belief that these demands can be absorbed.

Another question which arises about the implementation of our curricular program is whether departments will provide faculty members for courses which are not departmental, such as the freshman and third tier courses. A second, related question is how these programs would be funded. In response to these questions, we recommend that separate university committees to control these programs be established and funded directly. These committees could pay part of

the faculty members' salaries, so that there would be no question of using departmental funds for non-departmental orientation. It would also enable these committees to exert some influence in hiring and promoting, and would allow them to offer judgments to encourage faculty members to teach freshmen or third-tier courses.

The Independent Studies program would be run as it presently is, with the differences we already noted. The Group Independent Studies programs could be handled by a special student-faculty committee, which would coordinate a system matching faculty members and students in study areas of mutual interest. Neither of these programs will require any expensive increases in funds, or any significant increase in administrative effort.

The language institutes which would function during the vacation periods and during the first weeks of the semester could be taught by those faculty members presently engaged in teaching language courses. They could be patterned after the language and culture schools now conducted by Putney and in the Peace Corps.

Changes in the testing system can be made rather easily. The final examination period during the first semester would begin immediately before Christmas vacation. Though there may be work assigned after this date, and though term papers may fall due at the end of Christmas vacation, take-home final examinations in those courses which are suited for them would be given out before vacation. During the second semester, the take-home final examinations would be given out approximately one week before the start of what is now the reading period. In both cases, the due dates of the examinations would be staggered so that professors would not be faced with the take-home examinations from several classes at the same time. The due dates for the take-home examinations would fall within the first week of the final examination period, which would allow two to three weeks for the student to work on the examination, and would also allow a week at the end of the final examination period for the faculty member to meet with the students, either individually or in groups, to discuss the exam. With the changed system of evaluation, and with a decrease in emphasis on the final examination, we believe that such a system could easily be implemented.

As we noted in our discussion of grading, it will require a great deal of time and effort to make the implementation of the dossier system feasible so that Brown students will not be penalized in seeking admission to graduate and professional schools. The institution of cooperative grading, however, is feasible, and given the changed schedule of final examinations, could be implemented immediately. The final week of the examination period would be ideally suited to such a system; the meeting between the individual student and the individual

faculty member to discuss the course and the student's grade could still be supplemented with meetings between groups of students and faculty members to discuss the success of the courses. Cooperative grading should also not raise any administrative problems as the grades would still be forwarded to the registrar by the faculty member.

We will only touch on those other recommendations which will require some substantial effort to implement. In the section dealing with teaching methods, we recommended the use of undergraduate teaching assistants, who would meet with the faculty member and then conduct discussion sections in large lecture courses. It is our belief that the roughly four hundred undergraduate teaching assistants who would be necessary could be recruited fairly easily and, as these teaching assistants need not be paid, no extra expenditure would be incurred. This belief is supported by the success of such attempts at other schools. Undergraduate teaching assistants might be obtained by asking for student volunteers, or by soliciting recommendations from faculty members; though initially this might be difficult, once the tradition is established it should pose no great difficulty and would become a normal part of the educational activity of many upperclassmen.

The second major recommendation in the area of teaching methods called for the mimeographing of lecture notes wherever possible. The lecture notes would then be handed out to students in the course the week before the lecture on the subject was to be given. The only institutional problem involved here is the cost and time involved in mimeographing. If it is found that the work involved would be too great for the departmental secretarial staff, the secretaries might be asked to type up mimeograph stencils or ditto masters, while the undergraduate teaching assistants could be responsible for running off and distributing the notes.

Most of our other recommendations present few problems for implementation. The changes in the course and teacher evaluation system and the catalogue would require the formation of committees to be responsible for the collection of pertinent information. Changes in counseling would involve an expansion in the Meiklejohn Society. While we have recommended the creation of two new structures in the area of foreign study, the cost does not seem prohibitive and might be absorbed by the increase of funds available under the International Education Act. The self study procedure would also involve the creation of committees. In all of the structures where we recommend the creation of committees, we feel that it will be both possible and beneficial to involve large numbers of students and faculty members. It will greatly aid the aim of self-study and will, in general, help create a better educational atmosphere at Brown.

We hope that these general proposals will begin to clear up the doubts which people may have had concerning the feasibility of some of our recommendations. In terms of implementation, we realize the impossibility of prescribing a time table; some of our proposals could be implemented immediately; some are dependent on further action elsewhere; others must be implemented over a long period of time so as to be feasible in terms of finance as well as human adaptability. For example, the testing recommendations could be implemented immediately, while the dossier system cannot be implemented until more work is done elsewhere, and the institution of the freshman and third tier courses will require a long period of time as a substantial number of present courses would have to be redone, which is usually a slow process. Originally we had considered a detailed plan for implementation, but we have decided that there are too many variables involved. We would rather leave the exact planning up to those committees which are formed to consider and implement the recommendations of this report.

We do believe that our proposals are feasible within the present resources of the university. While we feel that this is relatively easy to demonstrate on paper, the most important factor to be considered is the attitudes of the faculty, administration, and students. If these groups resist change, there is little to be gained by changing the educational structures.

There are two aspects of faculty attitudes which must be affected if this report is to accomplish its purposes. The first aspect is that of narrow professionalism. We have dealt with this attitude at some length, but it bears repeating that without the removal of this orientation, there is little hope that the university could satisfy the educational aims which we have outlined.

The second aspect of faculty attitudes which must be affected is also present in many administrators and students. This is the quality which we shall describe as "inertia." Inertia affects members of the university community in several ways. Few human beings ever desire significant but untested change; it seems, however, that this fact is even more striking at institutions which deal with the hallowed subjects of education, where the established way is often equated with the right way. Another aspect of this inertia is that there is little faith in the value of restructuring the institution. While this attitude is at least partially justified because a good education will often center around good teachers and good students, making structures of secondary importance, it fails to recognize that educational structures can significantly increase the chances of good education taking place — or significantly decrease them. In another form, this inertia takes shape as a cynicism about the possibilities of significant change. For some, the question becomes not whether change is desirable but whether change will mean anything. This form of inertia springs from the fact that many changes do have

little effect; the institution, and the attitudes which manifest themselves in day-to-day activities, remain untouched. For others, the question becomes not whether change is desirable but whether it is possible given the realities of university life. Many members of the university community who would favor change are lulled into a type of inertia by the feeling that working for change is useless because significant change will never take place. Inertia often stems from the laziness of members of the institution or from their lack of concern with educational matters. Often this hides behind arguments of tradition, or the untestability of new ideas, or a priori thoughts that any major changes are infeasible.

In many cases, these forms of inertia combine so as to completely stifle the university. The students see themselves as transients, merely passing through college on their way to graduate or professional schools or to careers; the faculty members are oriented toward their departments and pay little attention to either their roles as educators or to the total scope of the institution as a whole; and administrators are so overworked within the day-to-day operations of the university that there is little chance to examine the university and to plan its long-range course. While such institutions can accommodate themselves to minor changes which are aggressively pushed, sweeping changes — such as those this report seeks — are rarely proposed and almost never instituted.

We hope that the effects of educational inertia can be overcome; if they cannot, they present an insurmountable obstacle to the successful implementation of our recommendations. Faculty members, administrators, and students will hopefully listen to our proposals, evaluate them, and then be willing to undertake the challenge that they pose for the university.

Student attitudes have also been a paramount concern in this report. We have tried to build in as many mechanisms as possible to facilitate the reorientation which must take place if our aims are to be achievable. The high school educational orientation — the future orientation, the working solely for grades — must be replaced by attitudes more conducive to the type of educational process which we hope will take place. Unless this can be done, not only in the freshman year but also throughout the remaining three years, our proposals will not be successful.

24. CONCLUSION

As we conclude this report, it is tempting both to summarize our proposals and to emphasize what we believe are the key points. But we will do neither of these things. Any attempt to state our recommendations out of the context of the reasoning which we set forth would only invite confusion; any attempt to deal with only a few of the proposals would not reflect the need to realize their interconnectedness, and hopefully their unity.

Furthermore, the very nature of a working paper would make a final summation inappropriate. We have not yet reached a point where our ideas are fixed and complete. In fact we now find ourselves questioning and even disagreeing with some of the ideas and argumentation of this report. Moreover, we still have an enormous amount of material on this and related subjects which we have not had time to include. We hope to use this material as well as the comments and criticisms which we receive as a basis for the revision of this report and for the preparation of future supplements to this report. Yet we do feel that the report as now presented is basically sound and will serve well as a starting point for discussion.

Now, more than ever, we are convinced of the need for extensive educational reform at Brown. The changes cannot be piecemeal as they have been in the past. An awareness of the scope of the problems, a knowledge of the interconnectedness of the educational structures, and the recognition of a need for a total institutional vision of what the educational system should be like will hopefully lead the reader to the belief that reform must be both wide in scope and coherent in form.

The excitement that such reform would create would certainly be felt at Brown. It would help create a vital educational atmosphere which would influence all that occurs here. But the effects would not be limited to the campus. If such reforms are adapted, Brown would take on a new stature as a center for educational reform in the Ivy League and as a leader in the field of undergraduate educational innovation.

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30. Katz and Sanford, 436.
31. Bell, 75.
32. Kerr, 88.
33. Bell, 76.
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39. Ibid.
40. Ibid., 90.
41. Ibid.
42. Ibid., 91.
43. Ibid., 91.
44. Ibid., 92–93.
45. Ibid., 97.
46. Kerr, 58.
47. National Student Association.
48. Perkins, 22.
49. Kerr, 59.
50. Perkins, 23.
51. Ibid., 22.
52. Kerr, Perkins, et cetera.
53. Gallo, 82.
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55. Kerr, 7–8.
56. Knapp, 298.
57. Ibid., 296.
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59. Weiss, 162.
60. Morison, LX.
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62. Mountford, 50.
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91. Maritain, 1.
92. Griswold, vi.
93. Mountford, 51.
94. Perkins, 43.
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99. Whitehead, 14 and 17.
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103. Ducasse Report.
104. Keats, 49.
105. Douvan and Kaye, 200–201.
106. Keats, 30–49.

107. Reisman and Jencks, 141.
108. Pusey, 175.
109. *The Troubled Campus*, 127.
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111. Reisman and Jencks, 76.
112. Erikson, 5.
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115. Whitehead, 13.
116. Maritain, 53.
117. These concepts are referred to in any of H.G. Wells' science fiction books.
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127. Schwab cited by Bell, 163–164.
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135. We have used the term "narrow professionalism" to denote what all these authors have criticized, though with different phrases.
136. Ortega y Gasset, 28.
137. Bell, 55.
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144. Heffner, 3.
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155. Ibid., 4.

156. All the previous phrases in quotation marks are from the Baylis Report.

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195. Ducasse Report.

196. Thomas, 54.

197. Ducasse Report, 6.

198. Keeney, Statement, July 26, 1961.

199. Committee on the Curriculum, Minutes, June 22, 1961.

200. Workman, 27–28.

201. See previous statements by Marks, Lindsay, Morse, and Usher.

202. The M Program has officially expired. The only M courses remaining are those in the foreign languages.

203. Lindsay, Suggested Revision, July, 1961; Marks, "Proposal for a Course" Mar. 19, 1963; Morse, "A Preliminary Proposal," Jan. 2, 1964.

204. Baylis Report, 1–2.

205. In proposals for new courses departments very often base their requests on the grounds that the courses will insure their students' success in graduate programs.

206. See Bell for these Columbia figures. The commencement issues of the Brown Daily Herald include Dean Dewart's figures on graduate school attendance. See Schulze, "Curricular Proposal," Aug. 1, 1962.

207. Schulze, "Curricular Proposal," Aug. 1, 1962, 2.

208. Whitehead on "style."; Ortega y Gasset on "being in form."

209. Schulze, "Curricular Proposal," Aug. 1, 1962, 6.

210. Ducasse Report, 7.

211. Morse, "A Preliminary Proposal," Jan. 2, 1964; Gardner, "Recent Discussions," Mar. 22, 1965.

212. Dressel, 32.

213. These include the Dartmouth Experimental College, Free University of Berkeley, San Francisco State Experimental College, the Experimental College of the University of North Carolina at Chapel Hill among others. It would be nearly impossible to list all the publications available from these colleges. The interested reader should contact the National Student Association for this information at 2115 S Street NW, Washington, D.C. [The National Student Association has since become the United States Student Association. — Eds.]

214. We do not necessarily subscribe to these complaints. They are, however, indicative of the assertions made by most of these institutions; they cannot be attributed to specific publications or specific free universities or experimental colleges.

215. Ibid.

216. Ibid.

217. Ibid.

218. Ibid.

219. Ibid.

220. Lipset and Wolin.

221. Michael Vozick, An Evaluation of the Experimental College (see note 222).

222. Information regarding the San Francisco State Experimental College was obtained from several course announcements (including Fall, 1966, Summer, 1967, and Fall, 1967), a number of newsletters (March, June, and July, 1967), two unpublished funding proposals, an unpublished evaluation by Michael Vozick, and conversations with Karen Duncan, Floyd and Carol Turner and Michael Vozick. All of the above printed works are in the library of Michael Bozick, working at the time of publication in Washington with the National Student Association.

223. Information regarding the Free University of Berkeley was obtained from the following material: *FUB Newsletter* 2, nos. 2 and 5; Supplement to the spring session of FUB.

224. This information must be taken on faith. We have searched through all our material and cannot find the necessary references. However, it is true.

225. Ibid.

226. *Dartmouth Experimental College Bulletin*, Semester I, 1967/68; Rob Reich, *Dartmouth Alumni Magazine*, Spring 1967.

227. See note 222 above.

228. See note 226 above.

229. David Kheel (one of the organizers in August, 1967 at College Park, MD), conversation.

230. *FUB Newsletter*, April 24, 1967.

231. Even where the courses do not bear these titles, they usually follow this type of format.

232. Bell; Thomas.

233. Thomas, 71–72.

234. Bell, 184.

235. Ibid., 282.

236. Ibid., 283.

237. Ibid.

238. Ibid., 282–283.

239. Becker and Hutchins criticize a few attempts.

240. Hutchins explains proposals.

241. Ibid., 70–71.

242. Whitehead, 17.

243. Becker, 24.

244. Ibid., 25.

245. For a more complete understanding of this report, we would suggest reading the works of Whitehead and Bell listed in the bibliography. Not only would this be useful in connection with the ideas stemming from these authors, but also a reading of these men would help to point out what we feel are important differences in the formulation of our own curricular proposals.

246. Bell, 290–295 (summarized).

247. Ibid.

248. Ibid.

249. Ibid.

250. See catalogues of Bennington and Antioch for further information on these programs.

251. We must disagree with him because in reality, when no structural aids to integration are provided, it usually does not take place.

252. Bell, 284–285.

253. Thomas, 47.

254. Ibid., 65.

255. R. W. Morse, Comments, July 20, 1962.

256. Thomas, 63–64.

257. Bell describes a few instances of this. A similar program exists in the Brown physics department.

258. Katz and Sanford, 432.

259. Ibid.

260. Lowell cited by Thomas, 52–63; Wriston cited by Thomas, 89–91; Ducasse Report. We are not concerned with definitions of a theory of knowledge as were these men. We believe that these basic divisions function well for both intellectual and practical purposes and therefore we recommend them.

261. Katz and Sanford, 443.

262. Ducasse Report, 3.

263. Pinner cited by Katz and Sanford, 443.

264. We agree with many of the basic purposes of these courses and we have used some of Bell's specific descriptions for them. However, we wish to make it clear that we have altered the use of the term from Bell's own usage. Since the courses do perform a "third tier" function, we have retained the phrase despite our enlargement and redefinition of their function.

265. Bell, 262.

266. Baylis Report.

267. Lowry, 209.

268. James A. Perkins, Speech, March 1966.

269. James A. Perkins, "The University and the Arts," 675.

270. R. V. Cassill, Speech, Brown University, Academic Year 1966/67.

271. Ibid.

272. Ducasse Report, 7.

273. Whitehead, 14.

274. Ruml and Morrison, 54.

275. Riesman, 36.

276. Whitehead, 17.

277. Hutchins, 11.

278. Ernest S. Frerichs, "Religious Studies," in Report of the Brown University Development Council, 1966/67.

279. McKeachie, 349.

280. Orgel and Zwerdling, 227.

281. Ibid., 227–229.

282. Ibid., 228.

283. Sanford, "Higher Education as a Social Problem," 20.

284. Devane, 8.

285. Ibid.

286. Meyerson, 283.

287. Riesman and Gusfield, 249.

288. McKeachie, 312–356.

289. C. L. Barber, *More Power to Them*.

290. McKeachie, 351.

291. Heimberger, 68–69.

292. Katz, 376.

293. Brown University and Its International Involvement.

294. Cammarian Club Report on Academic Counseling.

295. Riesman and Jencks, 129–130.

296. Adelson, 411.

297. Pusey, 13.

298. This sentiment, which Professor Borts expressed in a sophomore convocation, is unfortunately too often true at Brown. Many professors have expressed similar feelings in private conversations with us.

299. Sanford, "Higher Education as a Social Problem," 20.