REPORT
OF THE
COMMITTEE ON POST-WAR PLANNING

The Johns Hopkins University
Baltimore, Maryland
June 5, 1944
Preface

To the Report of the Committee on Post-War Planning

The Committee on Post-War Planning (first known as The Committee on the Curriculum) was set up on November 12, 1942, by President Bowman. Its original task was to study the curriculum of the Faculty of Philosophy of this University and to report its findings, for eventual submission to the Academic Council. At a general Faculty meeting held on January 13, 1943, President Bowman announced the formation of the Committee and discussed the problems which it would have to consider. On January 15 the field of the Committee was extended to the School of Engineering, and two members of the engineering staff were appointed to the Committee. The first meeting of the Committee was held on January 20, 1943, with Professor Hazelton Spencer as chairman. A total of seventeen meetings was held during Professor Spencer's chairmanship. In December, 1943, Professor Spencer had to give up his work on the Committee because of illness, and Professor Carl B. Swisher, who from the beginning had been particularly active in the work, succeeded to the chairmanship. During Professor Swisher's chairmanship eighteen meetings have been held, up to and including the meeting of May 31, 1944. The meetings have regularly lasted from an hour and a half to two hours each. The membership of the Committee has remained the same throughout, with two exceptions. Professors J. Trueman Thompson and Kemp Malone were added to the Committee in December, 1943, to replace Professors Thomas F. Comber and Hazelton Spencer, who because of illness were compelled at that time to retire from the Committee.

The activities of the Committee fall into two stages. During the first stage, a survey was made of the various departments of instruction in the University. Each field was taken up in turn at a session devoted
exclusively to that field, with the departmental staff in attendance. In these meetings the needs and proposals of the various departments were presented and discussed. During the second stage, the meetings were concerned with recommendations made by a series of subcommittees and with the text of the report itself. This text was prepared, in the first place, by the chairman, Professor Swisher, who based his work on a mountain of documents submitted by the departments, by the subcommittees, and by individual professors. The text as it stands here owes far more to Professor Swisher than to anyone else. Many details, however, represent modifications of the first draft, made by the Committee in response to suggestions from subcommittees or individual members.

This preface would not be complete without acknowledgment of our debt to Professor G. Heberton Evans, Jr. and Dr. Malcolm Moos for keeping the minutes of our meetings. The former for a whole year managed to combine with success two full-time functions: service as member and as secretary of the Committee. And when this double duty became too great a burden, Dr. Moos most generously took over the task of recording our proceedings, a service for which we can pay him only by expressing our heartfelt gratitude.

Donald H. Andrews
Kemp Malone

for the Committee
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Basic Characteristics of American Universities

Discussion of the future of education at The Johns Hopkins University has involved assumptions not merely as to changes to be wrought by the war but deeper and less articulate assumptions as to the proper functions of American universities. A university is a highly complex institution. It has the double purpose of pressing upon the outer limits of accumulated knowledge and understanding, and of endowing new generations with the intellectual and, to a degree, the moral heritage of the past. The educator leads a crusade. The enemy is the barbarian which is constantly being reborn in the younger generation and which lurks everywhere just beyond the horizon of discovered truth. To alter the figure, the artificial oasis of civilization is threatened constantly by the sweeping sands of ignorance which flow back upon us with the coming generation. The goal of the educator must be to hold the line against the enemy and to push it backward to enlarge the area of civilization which past generations have handed down to him.

In many fields of intellectual endeavor, now as centuries ago, the frontier achievements of scholarship are produced largely by the relatively lone scholar. They grow out of knowledge which only he possesses in an adequate degree, out of research which only he has done, and out of years of reflection upon the significance of phenomena with which only he is adequately familiar. Even where a vast amount of co-operation is involved in the equipment of libraries and laboratories and where each significant
discovery is based on the work of other searchers, the individual mind usually provides the crowning achievement. If there are instances in which the individual contribution to the making of discoveries is insignificant, it is nevertheless true that the meaning of new discoveries and their integration with other known facts are worked out largely through the reflections of individual minds.

Enlargement of the area of human knowledge and understanding, then, calls for individuality, for unregimented activity by many independent searchers after truth. In this field it is, in the final analysis, upon the individual rather than upon the school or university as a unit that creative achievement depends. But how about the transmission of the heritage of the past as distinguished from the conquest of new areas? For generations our academic institutions have been trying to devise curricula in terms of which to give a common education through many diverse teachers to much greater numbers of diverse students. Sheer mass of adolescent population seeking education has forced mechanization upon us. The captivating analogy to mechanization in the industrial world has made comparable experimentation with education tolerable and, to a degree perhaps, even attractive. Students have been taught in classes of hundreds or thousands in such a way as utterly to disregard the individual differences of the particular student. Required basic courses coupled with requirements of departmental majors have mechanized entire college careers, stultifying individuality or forcing it to find its only expression in extra-curricular activities. Resort to the elective system, representing a drift to laissez faire because educators were dissatisfied with old educational charts without being able to devise new ones, merely shifted to the student the choice of fields of mechanization without making the actual process of education in any real sense an individual process.
The methods of mass education have been extended even to graduate schools. With the broadening of the areas of previously discovered knowledge, postgraduate education must include more and more of the kind of training given in college before preparing students for their own specialized work on educational frontiers. The vast numbers of students seeking M.A. and even Ph.D. degrees have overwhelmed those teachers who, taking them in small numbers, would have preferred to deal with them in terms of all their individual differences and capacities. In some institutions, therefore, under the skilled supervision of cohorts of administrators, educators have gone in for mass production of individual scholars, ignoring the fact that the essential characteristics of the frontier scholar are his differences, his capacity for making unique contributions, and not his similarity to other men.

We have not reached a conclusion that all regimentation everywhere is bad. If regimentation can develop a capacity for self-discipline, we agree that the younger generation needs a great deal of it. Furthermore, we agree that vast blocs of information can be so well systematized as to permit uniform presentation in large classes and through carefully planned textbooks. We know that high-grade individual attention to all students in all educational matters, however desirable, is a practical impossibility. Yet, having said all that, we view with profound uneasiness the trend toward transforming young America into tens of thousands of approximately identical units on the educational assembly line. For the future of our thus far highly individualized, independent and creative population, we are borrowing too heavily from the mechanized techniques which produce material good things but bring no solution for the spiritual problems of mankind. We have seen with horror the way in which youth among enemy nations has been robotized in the
hands of master technicians. We do not assume that mere techniques of education are certain to turn young America into anything closely resembling young Fascists; but possibilities of evil as well as of good lie in the creation of mechanisms for mass education and mass indoctrination.

As yet, however, the basic defects of mass education probably lie not so much in the positive harm done as in negative results — in failure to bring out year after year and in connection with subject after subject the superior qualities of the individual student. In other words, one of the functions of education is the development of individuality through the learning process. This function becomes increasingly important with the pressure toward uniformity now characteristic of our highly industrialized society. As for education in the graduate field, if mass production techniques have not destroyed the individual characteristics of the student before he reaches this stage, they will, if permitted to do so, inhibit the individualized funblings and experimentation without which creative scholarship is impossible.

With the expansion of the subject matter of education and enlargement of student and faculty clientele, the machinery of education and the institutional lines of segmentation have become increasingly important. Many of our universities have grown into great, sprawling establishments with inner organization and functions so varied and intricate as to render virtually impossible any adequate characterization of the university as a whole. The activities and aims of schools within the university are often so diverse that they seem to have little more justification for propinquity than that which leads department stores to congregate in a particular section of a city. They inhabit an area to which people have been accustomed to go in
search of a wide range of products. For one wishing to attract customers for education, it may be well to set up shop in an area where such customers are in the habit of congregating -- that is, in a university.

Apart from this item of strategy there sometimes seems to be no important reason for existence together in one area of schools of art, dentistry, journalism, engineering, law, medicine, and so on. There is integration for advertising and appeals for funds and perhaps for a loose kind of institutional companionship but for little else. There may be destructive conflicts if the several schools derive sustenance from a common university budget. The vitality, or, at any rate, the creative activity of the university is to be found not so much in the aggregation as a whole as in the smaller units. One of the major tasks of planners for the university as a whole is that of creating and maintaining vital relationships among the component schools to give to each some of the richness of broad educational experience and to prevent costly duplications in the limited areas where cooperation is feasible.

Segmentation extends down into the several schools making up the university, performing desirable functions and creating problems as it goes. Each school is divided into departments and often also into divisions, fields of concentration, and so on. Departments are ancient institutions representing aggregations of scholars in particular fields. They are centers of companionship and stimulation for men of related interests in many institutions who, without such companionship would find life dull and unbearably lonely. They support professional associations and professional journals which foster advancement of knowledge in the respective fields. Even so they represent divisions within the field of knowledge as a whole, and
divisions create barriers. Yet further segmentation follows. Departments are divided into still smaller units, with more or less sharp lines of demarcation. The larger the school involved, the clearer the demarcation and the more detailed the subdivision, with separate courses devoted to almost infinitesimal minutiae. The degree of specialization becomes so great that teachers and students tend to lose contact with the broad field of knowledge and ideas in terms of which the education of each man ought to be linked with that of others.

Educators have become increasingly concerned about the drift toward specialization and narrowness, and have sought to check it in various ways. In undergraduate work students are required to take certain broad basic courses. They are required to take groups of courses or majors to insure breadth of training and to bring about the synthesis of courses within particular fields. Groups or divisions are organized to include related departments and integrate related subject matter which otherwise might register in youthful minds in terms of artificial divisions. All this represents commendable endeavors to undo some of the logical but nevertheless undesirable results of segmentation of educational practice and content. Yet it also represents additions to the already cumbersome structure of academic machinery, machinery which takes endless time and effort at administration from teachers whose energies ought to be going directly into teaching and creative research. If the machinery is available but is neglected by teachers with broad capacity for academic statesmanship, it inevitably falls into less capable hands. Academic machinery in the wrong hand may become an actual hindrance to the educational process. Positions of quasi-political power within the university, when not taken and held by
able men, become meccas for little minds, lazy scholars, and petty bureau-
crats -- which is one more way of saying that academicians, like most other
people, have an eminent capacity for so entangling themselves in their own
machinery as to prevent themselves from doing the very things they most want
to do. One way to combat these and other dangers is to develop vigorous
democracy within the universities. Through the practice of self-government,
a faculty can acquire the feeling of being responsible for the fate of the
University.

In spite of the growth of administrative obstruction with increase in
size, some of the difficulties of university education grow out of the false
identification of size and popular appeal with quality. The university
which is larger than another is assumed, for some reason, to be better -- or
at least to have its size as one bit of persuasive evidence that it is
better. A department is measured not merely by the scholarship and teaching
ability of its staff, but also in important part by the number of its staff,
whatever their eminence, and by the number of students majoring in it or
seeking higher degrees under its supervision. Significant evidence as to
the quality of a course is supposed to be revealed by figures of attendance.
The attitude probably derives from a variety of sources including American
pride in popular education, the carrying over from business and industrial
enterprise of the identification of "bigger and better," the assumption that
large numbers of students indicate university income and large numbers of
teachers indicate ability to pay, and, finally, the almost universally ac-
cepted assumption that aggregations of people represent aggregations of power
and that power is eminently desirable. Whatever the source of the attitude,
and however great the importance of universal education, a clear-cut diffe-
rentiation between size and popularity on the one hand and quality on the other is a prerequisite to intelligent thinking about education. The resolution of intellectual difficulties in this field alone would do a great deal toward simplifying the basic problems of American education. It may be noted that a great scholar with few students may teach multitudes through his writings and be a more valuable asset to a university than a popular teacher who makes no contribution to knowledge.

Sources and methods of financing vitally affect the content and the quality of education given in American universities. The need for income from tuition shapes programs to attract students in terms of numbers rather than ability, and it modifies standards to allow students to enter and remain in residence whose presence would not be tolerated but for their contribution to university finances. Universities operating on the basis of inadequate endowments are tempted to participate in popularity contests in the hope of attracting additional funds. Universities relying upon the favor of state legislatures must mold their program in terms of a wide popular appeal and must refrain from antagonizing powerful interests. Nevertheless, in spite of the obviousness of the influence of finance upon policy and program, it is not generally felt that the influence has yet become seriously corrupting. In view of the problems facing all universities in the post-war period, we recommend that a careful survey be initiated to study relations between the university and state and federal governments.

To return to matters discussed earlier, in universities as in other institutions, the achievement of chosen goals depends not solely upon organization and finance, but very largely upon particular personnel. This is true both as to students and as to teachers. As to the former, it may
be that national welfare and university welfare depend critically upon getting into educational institutions able young people hitherto excluded by lack of personal funds and upon eliminating incompetent students who frustrate creative teachers and students with whom they associate and depress academic standards. As for men engaged in teaching and research, capacity, interest and determination are vital if universities are to thrive. Lack of imagination, dullness and laziness in them do even more harm than in students. On the other hand, the range of permissible characteristics should be wide. A university is a place for searching after truth. A major function of a university is to provide a center in which men of intellectual capacity already highly developed can exercise that capacity both for its intellectual product and for the pace-setting value, guidance and stimulation given to younger men. The university provides a setting in which such men may add to their own equipment by borrowing from one another new techniques and new tools and by sharing accumulated information. The best use of these opportunities calls for the association of men with a certain amount of social capacity and consideration for the welfare and interests of other men. Furthermore, because of the extent to which university leaders share in the life of a community, a minimum of capacity for getting along with other people ought to be a prerequisite to employment. Yet this point should not be overstressed in measuring a man of alleged genius who does not fit too smoothly into a social setting. The comfort of the academic community is but a means to an end in the educational process and is not an end in itself. During the years immediately ahead, the welfare of American education will depend in no small part on the contribution of returning scholars, men who come back from the armed services,
government and industry. If they return with enlarged perspective, new
information, and revived enthusiasm, they will do much to re-invigorate
university life. They will be of little help, however, if they return in
a mood merely of weariness and disillusionment, if they have acquired so
little of value from their experience that their accounts of it are largely
anecdotal, or if they conclude that, having now lived life in all its full-
ness, they have nothing to do but wait placidly for the age of retirement.

Let us now turn from matters of size, organization, finance, and per-
sonnel in the field of university education to the essence of education
itself. Educators must enlarge the field of knowledge and understanding,
and must transmit to coming generations the heritage of the past in signi-
ficant knowledge, ideas, and skills. Since the heritage of the past is too
great to be transmitted in its entirety and since not all of it is worthy
of transmission, the educator must develop skill in making value judgments.
He must be able to select and select wisely. To do that he may have to
build the criteria of his own wisdom. The intellectual, social and moral
growth of mankind, educators included, is tied up with this necessity.

The task of appraising the value of investigation into new fields is
even more intricate and difficult. Unless mankind knows how to use them,
new knowledge and ideas may become instruments of destruction rather than
of improved welfare. Shall we seek to restrain investigation and discovery
and the development of new ideas until we can estimate their probable impact
upon society? The development of a feasible process of restraint on a
nation-wide scale is inconceivable. Even if we agree with the contention
that natural science has created and is creating destructive weapons with
which mankind can not yet be trusted, it does not justify a conclusion that
the laboratories of American universities ought to be closed. Good as well as evil is implicit in all discovery. Furthermore, viewing the matter starkly from the point of view of self-protection, unless restrictive devices could be utilized on a world-wide scale, American abstention from invention and discovery would merely leave us hopelessly vulnerable to predatory attack from abroad.

Since such a solution would be utterly unacceptable to the American people, our only solution is to push forward the processes of discovery. We believe, however, that universities must be scientific not merely in the non-moral sense of the term but also in a broader sense in that thought, investigation and discovery must be pressed to the solution of problems of control. We must be learned not merely to the end of self-destruction through use of our own newly created weapons, but to the end of disciplining the use of discovery to the benefit of mankind.

These generalizations about American universities are broad and for the most part undeveloped in terms of qualifications which members of the Committee would insist upon if our purpose were to write a treatise on the theory and practice of education. They are presented here merely to indicate something of the intellectual background against which we have discussed the problems of the Johns Hopkins University. We proceed hereafter with discussion of this University in terms of a number of its component schools.

The School of Higher Studies at the Johns Hopkins University

The Johns Hopkins University differs from most other prominent American universities in that it began its existence with the graduate school as its major concern and continues to stand out to this day predominantly as a
graduate institution. Whereas many huge state and private universities have built their reputations first as undergraduate schools and have patterned their more recently built graduate schools along the lines of their original activities, the Johns Hopkins University developed its methods and standards directly in terms of graduate training. Its emphasis has always been on quality rather than on numbers. While it has understood that quality of educational performance depends first of all upon the capacity of men employed to teach and of students admitted to be taught, it has insisted that additional important values derive from its own peculiar methods of education. It has taken pride in its ability to ignore the techniques of mass education almost altogether as far as graduate work is concerned and concentrate upon methods of individual instruction. While teachers make use of courses and seminars as devices for bringing added enrichment to students, content varies widely in terms of the needs of particular students, and education proceeds fundamentally by means of highly personalized instruction. That instruction involves extensive conference work between teachers and students as to dissertations, other research projects, the subject matter and methods of college teaching done by graduate students, and the broad field of education as it extends outward from the particular fields of interest of the students involved.

In terms of our ideals, training must be both deep and broad. Depth must not be that of the specialist whose knowledge and understanding are so circumscribed that his capacity is limited to exercising highly developed skills under the direction of others. Breadth must not consist merely of the possession of vast quantities of unrelated information. The adequately trained student possesses integrated knowledge of his own field with a
focal point of concentration therein, knowledge which extends outward in necessarily diminishing comprehensiveness towards the periphery of things available for and worthy of comprehension. Our methods of instruction are shaped toward the achievement of that ideal.

In spite of the existence of the ideal, however, it would be inaccurate to pretend that the members of this University have always viewed it in proper perspective. Its relative position has undergone a disturbing change in the educational world. There was a time when it was almost the only full-fledged graduate institution in the country. As such it produced the founders or occupants of graduate departments in other institutions throughout the country, institutions which in terms of size and wealth quickly outdistanced the University from which large numbers of their leaders had come. In terms of dimensions, the Johns Hopkins University was like a building once regarded as very high but now seen as diminutive because of the skyscrapers erected around it. This relative change produced internal uneasiness and discomfort. Many lamented the passing of the era when all good men needs must come from Hopkins, and assumed that the change in relative dimension indicated a corresponding institutional decline. They urged expansion for the sake of prestige and sought to borrow the techniques of narrow training and specialization characteristic of many larger and more rapidly growing institutions. We believe that such a desire to imitate and the alleged reason for it are unjustifiable and dangerous. They indicate a deadening sense of inferiority with respect both to the distinguished past of this institution and the somewhat noisy careers of our huge contemporaries - a feeling which leaves no inspiration for the rebirth of quality which must come with every new generation. The place of this University in the
educational world does not depend on size, or rather, it is a function of limited size rather than of expansion. The very survival of the type of education traditionally given at the Johns Hopkins University demands that it should not expand after the fashion of our great state universities and some other private institutions but should remain of such dimension as to permit highly personalized instruction. Such instruction calls for teachers with wide range of interests and with imagination sufficient to comprehend values far beyond the apparent limits of their specialties. It calls for a situation in which graduate students can come into close contact with men in distant fields who have this awareness of the unity and wholeness of knowledge. It assumes intense intellectual endeavor in a leisurely and reflective atmosphere wherein teachers are protected from heavy administrative burdens and teaching loads.

In the main, in spite of some tendencies to the contrary, the conditions have been preserved whereunder the Johns Hopkins University can continue without fanfare to do distinguished work. It is not so much in terms of self-criticism or institutional criticism as of clearer illumination of our aims that we offer the following suggestions as to the better attainment of our goals during the years to come.

1. The prospect for distinguished work at the Johns Hopkins University during the years ahead will depend first of all upon the maintenance of a strong, select teaching staff, one constantly being replenished in the lower age brackets and also collateral by new personnel of high quality. One wrong appointment or promotion can do more damage than a substantial fire. Two first-class men who may demand high salaries will be worth more to an institution such as ours than two or three times that many men of average
ability who might be hired for the same salary total. In the choice of young men, quality is far more important than present reputation; if quality is high, reputation will come. Whatever the level of appointment, our list of qualifications must emphasize, not merely knowledge and ingenuity in a narrowly specialized area, but also ability to relate specialized knowledge to broader fields of learning and the desire and capacity to impart that knowledge to students and, perhaps, to colleagues. The element of desire to communicate is, of course, an intangible not easily measured even as to the moment, and impossible of prediction as to the future. Yet upon it turns much of the success of teaching and upon it in no small part depends the morale of the University. A misanthropic teacher may be as ineffective as one who is tongue-tied. An ideal teacher gains effectiveness through enthusiasm over the growth of his students - and, it might be added, he lifts university morale by enthusiasm over the work of his colleagues. The opposite attitude, that of petty jealousy over achievements in adjoining offices, or departments, or schools, has no place in a living university.

With the rapid progress of knowledge and the intense specialization in most fields, there is serious danger, for the investigator, of losing touch with advances outside of his own immediate field. With a small faculty, moreover, it is impossible to have every field represented, and many gaps and weak spots are to be expected in the fields which we try to cover. This state of things is bad for teacher and student alike. A system of exchange professors would do much to improve the situation. Such professorships have never been used systematically and extensively, but they have many advantages. The presence here of a man from another institution would be stimulating both to his colleagues and to the graduate students. The faculty member
returning from a term or a year spent elsewhere will have made new contacts and gained first-hand experience in work different from his usual routine at home and he will come back to the familiar tasks with new vigor and enthusiasm. Such a system would involve some extra expense, since the visiting professor would be unable to replace his counterpart in every routine task, but the added financial burden would be light and well worth bearing.

Nearly all investigators need help of some kind in carrying out their programs of research. In many cases this help should take the form of research assistantships. An assistant enables a professor to undertake research larger in scope than would otherwise be possible. In some cases, however, no assistant is needed and the help should take other forms; for instance, an allowance for traveling expenses or for the costs of publication. Since needs vary from department to department and from individual to individual, we recommend that such sums as may be available for meeting these needs be spent in aid of approved projects of research, whether these projects involve the use of research assistants or not. We believe that funds of this kind have a special appeal and that prospective donors might well become interested in providing for such aids to research.

War years necessarily subject the structure of our faculty to strain and stress, and in the transition to peace we may be sure that it will emerge weakened at many points. Moreover, it will be called on promptly to function in a changed world with new problems to meet, new competition to face and new duties to perform. To this end we regard the strengthening of our staff as the most important single problem before us. As a first step, we recommend that arrangements be made for a general survey of the Homewood faculty and of sources of personnel to fill new appointments.
2. It is not enough merely to employ men of high capacity. If this University is to fulfill its rightful destiny, it must guarantee to its able men the time and atmosphere necessary for reflection, formal research and writing. Teaching loads must be carefully adjusted to the attainment of that end. Those loads should usually include some work with younger minds in the college, for the good both of teachers and students, but undergraduate teaching should not be allowed to become so burdensome as to interfere with the type of scholarly work which is legitimately expected of Hopkins professors. If the abilities of a man of high rank are not worth this protection, he does not belong at this University. For men chosen primarily as professors, administrative duties should also be light. While all teachers owe duties of citizenship to their university as well as to their country, good citizenship often implies the duty to concentrate on what one can do best rather than on tasks which any willing hands can perform.

In saying this, however, we do not wish to minimize the value of faculty boards and committees. From the beginning of this University the Faculty has had much more power in determining policy and in choosing and promoting members of the teaching staff, than is customary in most American universities. We believe that this is a wholesome feature of our inheritance. It makes for democracy and good morale, and should be maintained and extended all along the line. By way of illustration we mention the democratic administration of departments so characteristic of Hopkins, and the important part which the Academic Council and the Advisory Boards play in the life of the University.

We believe that one element in the high cost of the war will prove to be the disruption of the normal stream of university activities. The necessi-
ty for teaching long hours and at times in unfamiliar fields, the absorption into the teaching period of summer months ordinarily devoted to research and reflection, and the burden of unaccustomed administrative duties, virtually blocked the performance of the genuinely scholarly work to which this University is dedicated. The character of the inventory is not modified by the fact that civic obligations compelled resort to the policy which was followed or that individual growth took place in the performance of unaccustomed duties. The disastrous results will show in the quality and quantity of scholarly output during the years before us, and are not less deplorable by virtue of the fact that they will characterize other universities to an even greater degree. The effect of military service and other forms of non-university employment will vary with individual experience. Some persons may have been assigned to duties from which intellectual contributions can not easily flow. Others should have received stimulation both from change in environment and from specific opportunities and should bring added enrichment to the intellectual life of the University. The tone of intellectual achievement in the post-war period may well be high or low depending on the mood and the efforts of the returning delegation.

For the health of the intellectual life of the University community, we believe that the exercise of periodic leaves of absence is highly salutary. Time properly spent on leave should aid in the correction of perspective as to the absentee's own work, his associates and the University as a whole, and should provide him with stimulation and information which will greatly enrich his work after his return. For the peace-time era we recommend re-examination and re-appraisal of the opportunity for and the use of sabbaticals or leaves of absence or exchange professorships by means
of which Hopkins professors can go periodically to other universities, to research institutions, to government employment, or to private employment for periods of intellectual re-creation.

3. The provision of adequate funds and facilities for research constitute one of the most difficult problems of the modern university. Research in the natural sciences and social sciences is becoming steadily more expensive, and, partly for this reason, is shifting its center of gravity toward institutions with highly specialized equipment such as industrial laboratories, endowed research bureaus, and government agencies. Nevertheless we believe that in general the best thinking has traditionally been done and is still being done in university atmosphere. For advancement of the natural sciences it would be tragic if university research and teaching drifted into sterility for want of the intricate and expensive apparatus necessary for research and teaching. A reduced flow of ideas and of newly trained personnel would be disastrous in terms of the ultimate welfare of American industry. Impairment of the quality of the reservoir of mature scientific personnel in universities would be equally tragic for future periods wherein, as during the present war, the government might find it necessary to turn our universities once more into a network of government laboratories for governmental purposes. To urge upon industry the making of substantial grants for university projects and running expenses would be in no sense an appeal for charity. It would be rather to call upon industry to bear its rightful share of the cost of activities upon which industrial research and development depends. The Johns Hopkins University has a strong claim to consideration from a number of powerful business institutions. In addition, industries profiting directly or indirectly from university
research might well be expected to permit access of university scientists to their own laboratories. It would be well if periodic internships could be arranged to enable competent scientists at our own University to gain familiarity with equipment and processes too specialized and expensive and of too little general use for inclusion in university laboratories. In the long run, industry would gain far more than the cost of such employment, and the University would be able somewhat better to keep informed about the frontiers of experimentation. Reverting to the subject of the financing of our laboratories, much that has been said about our rightful claim to industrial support can also be said about a similar right to support from the federal government. University personnel and equipment have proved of unmeasured value to the government during the war. The maintenance of these resources is vital to national defense during the years ahead.

We should add, in connection with the subject of the cost of research in the natural sciences, that during the years ahead there will be need for a great deal of individual research and research of an interpretative character as well as for organized research done by groups of specialists. The former is much less expensive than the latter and, in view of the present status of research frontiers, may be even more important -- if one of two essential types of research can be said to be more important than the other. Certainly there will always be need for the highly individualistic scholar who primarily works alone as well as for the organizer who does his best work as director of a large group of subordinates. We should consider the alternative of laying emphasis at Hopkins on providing opportunities for men who do their best work when operating alone and with relatively simple equipment and facilities. It is true that such a policy would probably render
us unable to equip our students with detailed knowledge of all the technical advances on the frontiers of discovery. It would leave us free to give highly individualized and highly meaningful instruction to a small group of students, however -- a kind of training which may be much more effective in developing the scientific leaders of the future than one which emphasizes up-to-the-minute information on all the new technical advances.

In the field of the social sciences, universities face competition both from specialized research agencies and from government. The former include agencies such as the National Bureau of Economic Research, the Brookings Institution, the aggregation of public administration agencies housed on the campus of the University of Chicago, and many others. They provide facilities and ample funds for specialized research without the intervention of teaching and administrative duties such as those which distract university professors. They do valuable work. Members of permanent staffs admit, however, that the published results of research done cooperatively suffer from the elimination of the unique qualities of individual thinking and that in any event interpretation suffers from lack of the stimulation to thought which the teaching of able students provides. Such institutions will never replace university research but they can be used to supplement it by the accumulation of quantities of research materials for the collection of which universities lack adequate facilities. They can be most helpful both to the cause of research and to the universities by periodic employment of professors who will return in time to their university positions.

Research by government agencies likewise has great value but it too fails to duplicate the unique functions of universities. As in the case of cost-of-living studies, studies in the administration of justice, and so
on, government research can be conducted on a vast scale. It may have the support of huge appropriations and the advantage of access to government files and government power to get information from private sources. Even so, the government employee lacks the opportunity for reflection which the professor has or ought to have. He is subject to political pressures which restrain publication of original and unpopular ideas. The fruitfulness of government research, therefore, may well depend on the extent to which universities develop the significance of the materials accumulated on government projects. The position of the Johns Hopkins University is particularly fortunate in that we not only have access to the vast quantities of socially significant materials collected by government studies, but are also ideally located for doing direct investigation at the nation’s capital. In strengthening the social science departments, we should select new members partly in terms of ability and interest in developing this unique advantage.

Research in the humanities meets with no such competition from government and industry or from specialized agencies as it does in other fields of knowledge, but this makes the role of universities all the more important so far as such studies are concerned. The effect of the war in bringing us closer to Europe and Asia makes it more desirable than ever that we should understand the languages and literatures of those continents. At the same time the fact that there is less demand from government and industry for specialists in humanistic subjects than there is for specialists in natural and social sciences makes it relatively easier to secure and retain professors in the humanistic field who are men of ability. While the humanities require more money for books and for publication than do natural sciences, such cost is slight in comparison with that of laboratories and their equipment. The
distinguished record of the Johns Hopkins in the humanities, as well as its limited resources, makes it peculiarly fitting that such work should be maintained and strengthened in this University.

The problem of financing research institutes and large scale research projects in any field of scholarly activity is so broad and complex as to be beyond the scope of this report. We recommend, however, the appointment of a committee to deal with this matter.

4. The presence of vigorous and capable young minds in the graduate student body is necessary both for the intellectual welfare of research teachers and for the spreading of knowledge and intellectual skill to new generations. To that end scholarships and teaching assistantships must be available. In the allotment of scholarships, as in the employment of teachers, financial provisions should be made to bring a few of the best rather than more who are lower than first-class. The same emphasis on quality is needed as to assistantships. The best graduate assistants, operating under adequate supervision, bring vigor and enthusiasm to undergraduate classes, and provide youthfulness in leadership for which the maturity of age has no adequate substitute. Poorer graduate assistants yield a lower return and may well stand in the way of fulfillment of our obligations to our college students. They are satisfactory neither as graduate students nor as teachers, and it is doubtful whether the University does them kindness by encouraging them to remain in residence. The graduate students admitted to the University should be those who can be accepted as junior colleagues, men and women who can learn through companionable association with mature teachers. They should be of such caliber as to stimulate intellectual response in their teachers, to bring out from the latter with new vigor the
content of mature knowledge. While admitting that students can not be expected to possess on arrival a great deal in the way of information and ideas which are both new and significant, we nevertheless contend that one who does not bring to life in his ablest teachers a sense of more mature wisdom represents for the University an investment of doubtful value.

5. As we said above, we believe that the graduate training given at the Johns Hopkins University should be unique in the degree to which it develops capacity for breadth of understanding. Other universities under the pressure of size have surrendered to the necessity of mass handling and to the evil of specializing beyond the point from which the trainee could see the significance of his specialty in terms of broader concepts. If any of our departments have succumbed to the mass movement, they ought to be persuaded to take stock of their policy. It will be understood, we believe, that we are not concerned with the superficial kind of breadth which is calculated principally to make a student a fluent conversationalist on all subjects. We have in mind the breadth which reaches out from a specialty of which the student is master and which has the effect of giving him orientation in the world upon which the practice of his profession will have its impact.

6. Although the achievement of breadth of training depends primarily upon dynamic faculty interest rather than upon academic machinery, the subject of mechanisms cannot be avoided. We maintain that one of the great assets of a university of this size is the absence of machinery which gets in the way of informal and adjustable instruction molded to the needs of particular students. Because we have sought to conserve this asset by keeping machinery at a minimum, we have no devices by which to insure that graduate students
in all departments will take some work or the right work in related departments, or will acquire adequate perspective as to work in distant fields. We should oppose measurement of student performance solely in terms of hours of instruction and grades of achievement. We do not like the formalization of education as practiced in other institutions through rigid enforcement of major and minor requirements in two or more departments. We attempt to teach students rather than courses. We use courses for attainment of variable ends in terms of needs of the particular students who come to us. They are often used, it is true, for the benefit of students of diverse interests in closely related departments but only on rare occasions would they lend themselves to orientation purposes for students in distant fields.

We agree that the price which we pay for the privilege of carrying on graduate education so as to achieve unique values, as distinguished from those to be achieved by institutions which must use something of an assembly-line technique, should be the performance of our own full obligation to all our students. One of our tasks is to secure an awareness of the broad field of knowledge which awaits conquest, including areas in which particular students will never achieve mastery. As one step toward the fulfillment of that obligation, we recommend the appointment of a committee to examine into and report on the breadth of training actually given to graduate and undergraduate students in the several fields, to make recommendations as to training in closely related fields, and to attempt to devise for the post-war period seminars or lecture courses by which students without background in distant fields could acquire some conception of their contours and significance. The committee should recommend not merely in terms of principle but also of proposals as to administration.
7. While we value highly our freedom from tightly knit administrative controls and from enforced interdepartmental connections and believe such freedom a unique asset to graduate education, we hold nevertheless that co-operative interdepartmental programs should be encouraged. With very little formal change in machinery for example, it would be possible, and it might be desirable, to offer a graduate program in American civilization - a type of program already being offered in other and larger universities where administrative adjustments to permit institution of the program were formidable. The institution of such a program here should depend on the interest shown in it by the teachers who would be responsible for it and by the students whose training would be involved. It is conceivable also that area programs or period programs might be offered to meet needs and interests which may become apparent with the dawning of the post-war period. While each program should be thoughtfully considered before it is instituted, no valid opposition to it should rest merely on the fact that such a program has not previously been offered.

8. As a part of the process of post-war adjustment, the faculty as well as graduate students should take note of sweeping changes in the several academic fields and of the possible desirability of changes in plans for student training. It is obvious, for example, that ferment in the natural sciences has been speeded tremendously by the impact of war. Chemistry and Physics have seemed on the point of devouring each other. The lines of demarcation between these sciences and the science of Biology have grown fainter. The science of Geography has crowded into the picture as never before. Similarly, Government and Economics are not merely more completely entangled with each other than ever before but are also grimly aware of the importance of ex-
plosive unknowns in the natural science field, while natural scientists find themselves but the tools of military and civil administrators and economists.

As soon as possible after the end of the war it may well be worth while to attempt a statement as to the basic changes in academic fields which have been brought about or which have been shown to be desirable as a result of the war experience. To that end we suggest the appointment of committees in the several fields to bring together information on the subject and to attempt for the whole University explanatory statements as to the extent to which educational ends and aims and procedures have been modified by the experience in question. Such an appraisal in the natural sciences might perhaps be made rather quickly. As to the social sciences and humanities, it is possible that more time may have to pass before specialists can generalize on some of the more important effects of the war upon their methods and subject matter. An understanding of the problems, however, will be vital to graduate education in the post-war period.

The College of Arts and Sciences

The College of Arts and Sciences is an important although little advertised part of the University. It has all the advantages of limited size which we discussed in earlier pages. Because of the utilization of the same personnel in the College as in the graduate school, undergraduate students here have unique opportunities for intellectual contact with men of high rank in the several fields. While in large courses undergraduates work to some extent with graduate students serving in the capacity of teachers - teachers who bring to their work the freshness of youth which more mature men cannot provide - the latter are usually under full supervision of distinguished teachers in the graduate school who themselves lecture to College classes
and make themselves available for conference. In addition to their work with the large general courses, mature teachers keep most of the smaller college classes entirely in their own hands. The combination of maturity and distinction with youthful vigor sets our College apart from most of these with which it might be compared - and much to its advantage.

Because substantial enlargement of the College would detract from its outstanding qualities and because the ends and aims of the University are intimately tied up with the kind of teaching and research which can be done best in the graduate school, we oppose any great increase in college enrollment over that of pre-war years. A limited increase would be possible, and desirable, if it were so directed as to correct two present defects - proportionately too large an enrollment in pre-medical courses, and proportionately too large a registration of students from our own immediate locality.

The lack of balance is due, we suspect, to the fact that the name of Johns Hopkins is much better advertised on the medical side, through the Medical School and the Hospital, than are academic fields which are cultivated with the same degree of competence. Because of the large proportion of pre-medical students in the College, our natural science facilities are utilized close to the maximum of efficiency, while facilities in other fields make it possible to take care of additional students with but slight additions to cost and to the burden of teaching. Moreover, students derive a better balanced education under circumstances which bring them in contact with other students of greatly varied interests. Much of the best of college education, indeed, is derived not from teachers, whether young or old, but through stimulating associations within the student body. Just as the training of students in the humanities and social sciences would be highly defec-

tive without an adequate complement of students in the natural sciences, so the training of the latter is adequate only if they are brought into intimate association with students in the humanities and social sciences. We have, and have always had, students in the latter field, but numbers ought to be increased somewhat to achieve a better balance with the natural-science and the pre-medical fields.

The fact that a higher percentage of our college students is not drawn from points distant from Baltimore is probably due to the relative under-emphasis which is given to the College in matters of publicity by comparison with other schools of the University. Yet the College receives careful attention from those people who maintain the high rank of the other schools. We believe that it ranks high in quality among the distinguished colleges of the country and that it is far superior to those institutions in which young people are taught wholesale in the undifferentiated mass. We believe that the College would do better work than it now does, however, if it were more cosmopolitan in its make-up, that is to say if it brought together in one small student body a larger representation of students from distant sections of the United States and from other parts of the world.

We recommend, therefore, that the administrative officers of the University give more attention than has hitherto been given to making the good qualities of the College more widely known and particularly those fields of college activity which are not already adequately represented. We offer no recommendations on specific methods of advertising beyond suggesting that the allotment of scholarships, personal visits to preparatory schools, and communications with alumni be used as techniques to spread more widely an understanding of the character and qualities of the College.
To a high degree, the success of our efforts to give a college education to a limited number of young men will depend upon the inherent capacity and the quality of the previous training of incoming students. We have given a great deal of thought to the difficulties which arise from the fact that many students come to us poorly trained. This generalization applies not merely to students of limited capacity but in an astonishing degree also to those who have the capacity for the development of good minds. Whatever the degree of our respect and sympathy for teachers and educational administrators at lower academic levels, we have for the most part no choice but to blame preparatory schools for this situation. The defects in the training of the high schools from which most of our students come are attributable in part to the following causes:

1. The necessity for mass education, which has in high schools all the bad characteristics we have attributed to it in university education and which, in addition, forces on the schools a standard below that acceptable as proper preparation for college.

2. The fact that only a small percentage of high school students is preparing for college and that curricula are adjusted to the needs of the majority. In small communities this often results in thin curricula as far as courses appropriate as college preparation are concerned.

3. The inability of a large number of high school teachers to teach subjects as they should be presented in a senior high school. There may be many reasons for the inadequacy of high school teaching, but we suggest the following as important contributory causes:

   (a) Many teachers are trained for lower grades and gain their experience in these lower grades. The present system usually permits teachers to advance to high school positions as they satisfy certain requirements, with the result that almost anyone acquiring a bachelor's degree (including a certain number of prescribed courses in educational method) may end up as a high school teacher. The process takes little or no account of personality or intellect and often results in the elevation of persons entirely unfit to inspire
and instruct older students. In many cases these promoted teachers are poorly prepared for the subject which they are supposed to teach.

(b) The low salary scale of high school teachers induces many of the best to look for other jobs.

(c) The inflexible attitude of many school administrations with respect to "education" credits is discouraging to many superior teachers.

(d) The rigid supervision of teachers at the high school level also is discouraging. The enthusiasm of the better teachers is stifled and they do not give their best efforts to the job. While certain rigidities may be necessary in the lower schools, we believe they should be largely eliminated at the high school level.

Events connected with mobilization for war have made more glaring some of the inadequacies of the present system of high school education. The war has also brought about a serious shortage of high school teachers through the demands of the armed forces and the attractions of higher pay in industry. It is believed that many of the teachers will not return to their profession and that many years will pass before the necessary number of new ones can be properly trained.

Our University has, of course, no direct responsibility for the work of the high schools of Maryland and no right as an institution to interfere with their organization or operation. Even so, for the purpose of improving the quality of many of our own entering students and as an exercise of the duties of citizenship with respect to the schools of our State, we feel obligated to point out weaknesses and to use our influence to bring about reforms even if those reforms require legislative action or drastic changes in the policy of school administration. If successful, the process will take a long time and will require patient and sympathetic cooperation between universities and secondary schools and an understanding by the former of the latter's problems.
We believe, for example, that this University should use its influence to bring about a partial separation of the senior high schools from the rest of the school system. This would mean that the movement of teachers from lower grades into senior high schools would stop, or at least that such promotions no longer would be the usual way of providing a supply of high school teachers. Teachers would be trained directly for the senior high schools and would be appointed directly to the senior high schools.

We believe that the University should advocate radical changes in the present system of training high school teachers. They should be required to obtain a real mastery of the subject which they propose to teach and of related subjects. Some courses in "educational method" are properly included in the curricula, but they should be distinctly secondary to the subject-matter courses. It is probable that the minimum requirement for a high school teacher should be the master's degree, and that a different kind of program leading to that degree should be especially organized for those who plan to teach in the secondary schools. The program should lead to a balanced understanding in a wide area of knowledge rather than specialization in a narrow field.

We believe that both the secondary schools and the colleges and universities would benefit from this method of selecting high school teachers. A new group of students would be attracted to the University and a higher quality of teaching would be afforded for the high schools. We believe that a system whereby candidates are prepared directly for high school teaching will attract a group superior to the average of those now engaged in high school teaching, since the prospect of higher pay and a dignified position would be immediate rather than remote.
There are other steps which the University might urge concurrently with the one referred to above. The relationships between high school and college are, or should be, very close at all times, and it is probable that some of the difficulties of the past have grown out of the failure of the two groups to work together systematically and efficiently. We suggest, as a beginning, that a committee be formed at the Johns Hopkins University and that this committee take the initiative in establishing relationships with the school systems of Baltimore City and the State of Maryland. Such a committee might do a great deal to encourage the adoption in high schools of curricula acceptable to the colleges. Through its contacts it could emphasize the importance which the colleges place upon sound preparation in certain of the basic fields such as English, mathematics and history.

Within the State and over a period of years, such a committee might influence materially the trends in secondary education to the benefit of both colleges and high schools. We may hope that ultimately any progress made in Maryland could be extended beyond the borders through the influence of such national agencies as the American Council on Education, the Association of American Colleges, and the various professional societies interested in education.

Much as we are interested in improving the high school program of our State, however, even the greatest optimist will concede that influencing the traditional program will take many years. In the meantime our College is confronted with the task of dealing with the current crop of entering students, among whom many are inadequately prepared, particularly in the fields of English and mathematics. Records indicate that the highest mortality among college students may be traced in some measure to difficulties incurred during the early weeks of the freshman year. It is in that period that the
poorly prepared student falls behind and becomes discouraged. It is in that period also that the otherwise competent student may fall by the wayside due to difficulties of adjusting himself to a new environment and a new kind of instruction.

We recommend therefore that we return to a year of two sixteen-week terms and that consideration be given to the introduction of a short period of orientation and adjustment for all entering freshmen in the undergraduate schools at Hopkins. It is proposed that the period be of approximately four weeks duration and that all freshmen be required to report on the campus on the first day after Labor Day, with the understanding that the regular academic year will begin four weeks later.

The four-weeks period thus provided would be used mainly for the following purposes:

1. Intensified instruction in English and mathematics, designed either (a) to renew the student's familiarity with these subjects which may have been acquired and lost during his high school years; or (b) to carry the student further in the direction of competence in these fields so that he may begin the regular term at or near what we should like to regard as the college level.

2. For those students adequately equipped in either English or mathematics, or both, special courses can be arranged in foreign languages or other subject fields in which short-term intensified instruction is practical.

3. It may be assumed that most engineering students will not be deficient in mathematics, and for these we suggest that the four-weeks period be employed primarily for a course in surveying now required of all engineers.
4. Aside from formal instruction, the four-weeks-period should be utilized fully to familiarize the student with Hopkins' methods and standards and the opportunities for extra-curricular activities, athletic and non-athletic. It will afford special opportunities for personal advising by selected members of the faculty.

We believe that no pains should be spared in our efforts to persuade the students and their parents of the value of this preliminary introduction to college life. We believe also that no effort should be spared in attempting to make the experiment worthwhile. The freshmen will almost literally have the campus to themselves and should command, to an unusual degree, individual attention on the part of faculty members.

Finally, we recommend that this additional service to students be provided at no additional tuition cost.

During the course of our discussions we have many times, directly or indirectly, asked ourselves this question: Given a balanced College of intelligent young men who are well prepared for college work, what do we propose to do for and with them? Our purpose is not directly to train men as craftsmen and artists, but rather so to train them that they will ultimately be better craftsmen and artists and will also have as men distinctive qualities of independence, and intellectual and perhaps moral integrity and insight into the problems of mankind which they would not have had but for training received here.

We characterize our purpose as that of seeking to improve the competence of our students in knowing, thinking, and doing. The wealth of all accumulated knowledge is available for absorption by them. As teachers it is our difficult task to illuminate that knowledge and implant it in the minds of new generations who will use and build upon it. We cannot avoid the necessi-
ty of selecting the knowledge to be imparted, and we probably cannot escape entirely the influence of personal and group bias in the process. We must operate constantly, therefore, under the spotlight of self-criticism. We must shape carefully our standards of evaluation and, to the extent to which it is possible, we must train our students not merely in factual information but also in the very process of selection in which we ourselves are engaged. In addition to learning to know, the student should also learn why it is deemed important that he should know. If he himself arrives at different conclusions either as to what or why, or as to both, the result is not necessarily discouraging.

This brings us to our second point, the development of the student's ability to govern his own thinking and make it an instrument of sane living. He must learn not merely to acquire facts but also to estimate their significance, and, when action is involved, to make his judgment of them the basis of intelligent action. Education is intended to bring about plastic reconstruction of the mind of the student to the end that his thinking will no longer split along the grain of inherited prejudice or of short-sighted self-interest. It is a process by which he acquires, partly by absorption from others and partly through his own creative efforts, criteria of values for the molding of his conduct and the determination of the kind of influence he will exert upon society.

Part of the importance of learning to do as well as to know and to think derives from the necessity of correcting a tendency sometimes found in education completely to divorce intellectual processes from action. It is important to teach the student that education is not passive but rather that it consists of positive and vital functioning. The process of doing under self-discipline is at the heart of the process of learning. This is
true whether the doing be in the nature of skilled manipulation of complex apparatus in the laboratory or accumulating information to explain economic or political events, or the construction of a poem.

Education, then, is intended to enlarge and improve the integrated capacity of the whole man to know, to think, and to do. But what are the more specific contributions of the three broad divisions in our College, the natural sciences, the social sciences, and the humanities? The natural sciences develop and discipline the ability to observe and the power to classify and analyze observations and draw deductions therefrom. Although we make no claim that the so-called scientific method is a device limited exclusively for use in the natural sciences, that method is illustrated ideally and is learned with greatest facility in connection with the process of scientific investigation. Even more obvious is the fact that the student must know something of the natural sciences to understand the speedy transformation now going on in our knowledge of both the physical and biological worlds. A mere sample of scientific training will not make him a scientist, but it will give him clues in terms of which to seek explanations of new phenomena.

If the student must know something of the natural sciences in order to understand the changes which scientific invention and discovery bring, he must also know something of the social sciences in order to participate intelligently in attempts to use newly released forces for the benefit of mankind and to prevent their use for the destruction of our civilization. Apart from the impact of scientific change, the social sciences play or ought to play a vital role in educating students for the performance of their necessary and proper functions in the economic and political world.
While it is true that much of the student's information in these fields is acquired in the home and the preparatory school and from radio, newspapers, and other sources, we regard mature training at the college level as of such importance that baccalaureate degrees should not be given until students have engaged in some disciplined study both in the long course of history of their economic and political institutions and in the analysis and appraisal of these institutions as they now function. Adequate attention to history enables the student to see modern problems in the setting of their origin and to maintain perspective in plans for dealing with them. Current analyses and appraisals give necessary equipment for understanding modern contours of economic and political problems, enable the student to find his way around among them, and make it possible for him to arrive at judgments on the basis of existing facts rather than in terms of generalizations applicable only to the conditions of bygone eras. While we would emphasize the importance of factual knowledge in social matters, and particularly knowledge of current significance, we deplore the tendency on the part of the social sciences in recent decades to concern themselves with facts alone and to neglect meanings and values. Courses in these fields, in addition to giving or providing guidance to information, should be centers of experimental search for standards and the measuring of social development in terms of standards. If philosophy and ethics can be omitted from consideration in the natural sciences -- we are not here asserting that they can be so omitted -- they nevertheless have a vital place in those sciences which deal with the social activities of human beings.

The humanities, through the field of literature, are directed towards the illumination and enrichment of life and toward the development of what, for want of a more definite term, may be called wisdom. Students may be
helped towards these goals in a variety of ways as by experience, by nature, by courses in any field, and especially by any competent teacher; but most college students are led toward them most directly, most easily, and most fully by literature. The aim of courses in literature is to develop not technical specialists but human beings, not the economist, not the geologist, not the teacher, but the man. Such courses are thus more fundamental, of more general if less obvious utility, than other courses; they affect the use a student makes of all his courses, of his profession, and of his life. Insofar as they involve the study of foreign languages, the humanities aid in unlocking doors to the rich storehouse of the knowledge of the past and also, to a considerable degree, of the present. The study of languages not only illuminates linguistic phenomena, but also expands the area of a student's understanding of his fellow men, develops esthetic appreciation, and provides discipline.

In the light of these considerations as to the character and value of training in the three broad fields into which our college work is divided, we have re-surveyed our program as it is administered in times not disturbed by war. We do not pretend to provide detailed and specialized coverage of the whole field of knowledge in the College any more than in the graduate school. We feel assured, however, that apart from temporary gaps resulting from vacancies which will undoubtedly be filled as soon as the passing of the emergency permits, good and sufficiently broad work is being done for the benefit of majors in their respective fields. Our questioning of our program has been done largely in terms of the adequacy of training given to all students in fields distant from their majors. As the result of our examination we make the recommendations described in the following paragraphs.
In view of the importance of the natural sciences in the lives of the younger generation, we are dissatisfied with a college requirement in terms of which many students take only a single course in natural science and make their selection among such courses largely in terms of an estimate as to which course will require the least work. The situation has been aggravated by the fact that most introductory courses in the natural sciences have been planned largely in terms of the needs of students who expect to major in the respective scientific fields rather than of students seeking only a general introduction to the subject matter and significant generalizations as to its meaning. We have considered at length a program in terms of which each student would be required to take separate courses in mathematics, physics, chemistry, geography, geology and biology. However, the subcommittee dealing with the subject reached the conclusion that, in order to give meaning to the separate courses, so much time would be needed that most students after meeting major and group requirements would have no time left for electives. While we have worked out no generalizations about the extent to which students should be permitted choices in the selection of their studies, we feel that the complete elimination of electives would be undesirable; furthermore, we could not wholly disregard the fact that such an expansion of the science requirements would be exceedingly burdensome to those students who for some reason find the mastery of science courses unusually difficult. We have worked out as follows what we regard as a creative compromise. We propose the establishment of two required courses in the natural sciences largely to meet the needs of those students not majoring in the respective scientific fields. One of them would synthesize information and ideas in the physical sciences and the other in the biological sciences. Their
purpose would be not the training of students as scientists but the rounding out of a general education. We believe that the institution of such required courses, coupled with proper administrative provisions for the substitution of formal introductory science courses where undue hardships would otherwise be worked, will add greatly to the quality of college education as a whole.

In the social sciences we do not find extensive changes to be immediately necessary. We have recognized the obvious importance of the duties of intelligent citizenship which every educated citizen owes to his country by a decision to recommend the requirement of a term of political science—a requirement not hitherto in force at this University. Because of the threat of congestion of schedule, this change is recommended with a corresponding recommendation that the required course in political economy be compressed into a single term.

We take the position that the importance of our American heritage as a part of the training of college students should be emphasized, assuming of course that America should be portrayed not in isolation but in its world setting. Because of the importance of the subject, we call attention to the desirability of adding to the faculty more persons to teach in the field of American history. We believe that the proper planning of work in American history calls for the appointment of one or more American historians with desires and expectations of continuity of tenure and that anything more than skeletal planning in the field must await the selection of the men who are to do the work. In the meantime we call attention to the desirability of offering courses in American art, perhaps in connection with the facilities available at the Baltimore Museum of Art which adjoins our campus. Such
courses, if given, should be sufficiently advertised to create an awareness of their existence. Work in American philosophy might profitably be introduced in addition to such work in political theory as may be offered in the Department of Political Science. We suggest the possibility of history courses in the various scientific fields without assurance that the separation of American from non-American materials would be feasible.

Through a subcommittee, we have given considerable attention to questions involved in the establishment of required courses, or majors, or fields of concentration in American Civilization. Such courses, majors, and fields of concentration have been much discussed in recent years and are widely provided for in institutions throughout the country. The purposes involved include avoidance of too rigid departmental barriers, creation of awareness of the essential unity of knowledge about things American and the addition of materials in the American field not hitherto presented. We agree that the importance of these ends justifies fully all the attention hitherto given to the subject. However, the evidence thus far discovered does not convince us that a synthetic course for all students taught by specialists from various sections of the American field would secure the desired results. As for a major in American civilization, we think it might be extremely desirable if we did not already have machinery adequate for integrating the work of the several departments in the American field. As far as the American courses now given are concerned, however, most of them are already given by departments included in the Social Science Group. The inclusion of the professor of American literature in that group would make possible group supervision of the integration of present American courses without the creation of additional machinery. Our need at the
moment is for more courses rather than for additional machinery for integration. Should the Social Science Group fail properly to sponsor the relating of American work, or should the University find it possible to initiate courses in fields which have no necessary connection with the Social Science Group, it might then be desirable to initiate a major in American civilization or to organize a separate group to deal with the subject. At the moment, while re-emphasizing our belief in the importance of the ends to be achieved, we must conclude that we see no need for the immediate creation of additional machinery.

In the area of the humanities, we have been concerned about the lamentable incompetence of entering students in the field of English composition, incompetence which too often continues throughout entire college careers. We hope that some degree of correction of defects may be worked out during the four-weeks period at the beginning of each student's freshman career which we have discussed in earlier pages. In addition, however, we have re-examined our present program as far as the teaching of English composition is concerned and wish to make the following recommendations:

1. We favor continuation of the present practice of giving an achievement test in English to candidates for admission.

2. We recommend that all students who fail in this achievement test be required to take a course in English writing and speaking during their first term of residence. This course should meet three hours a week, as it now does. Those students who by the end of that term are doing satisfactory work in the subject should be excused from further attendance.

3. We recommend that all students whose work in writing and speaking is still unsatisfactory at the end of the first term be required to continue
taking the course during their second term of residence. If at the end of
the year the student's work is still unsatisfactory his case should be re-
ferred to a committee of the Faculty. This committee should decide whether
to drop him from college, or permit him to make up his deficiency by sum-
school work, or require him to repeat the course in his second year of resi-
dence.

4. We recommend that all students who, having absolved the course
requirements in English composition, are admitted to the required survey
course in English literature, or take other courses in English, be required
to hand in to their English instructor, for reading and criticism, not only
the papers written for the English course they are taking, but also such
papers, written for other courses, as the instructors giving these courses
may wish to bring to the attention of the English department.

5. We recommend that those students who are not taking any course in
the English department be assigned an English tutor with whom they would
have half-hour conferences every two weeks throughout their college career.
The subject matter of these conferences would be papers written by the stu-
dent as part of his work in the various courses he was taking. Such a paper
would be submitted to the English tutor, however, only with the consent and
cooperation of the instructor of the course for which it was written. The
course instructor and the English tutor would be expected to work in colla-
boration with a view to improving the student's written work in form as well
as content. Should a student be taking courses in which no papers are writ-
ten or in which no collaboration between instructor and tutor has been ac-
hieved, his tutor would assign him suitable subjects, or encourage him to
select suitable subjects.
6. Upon recommendation of the English tutor, a student found to be fully proficient in written composition might be exempted from further tutorial work by the aforesaid committee of the Faculty.

7. A student whose written work remained unsatisfactory in spite of all the efforts of his English instructor or tutor should be reported to the aforesaid committee, which would then decide whether to require the student to do special remedial work under the direction of the English department, or to repeat the required course in English writing and speaking.

Discussion of the required course in literature has led to the conclusion that English literature should continue to provide its subject matter. However, in order to create awareness of the fact that not all literature is written in the student's own language and in order to expand knowledge of subject matter as well we recommend the establishment of a new course in European literature as an elective. We urge that sufficient attention be given to the course in American literature to insure that advisors and students will be aware of it in selecting courses because most of our present courses in materials which are largely American are given by departments now included in the Social Science Group (that is, in history, political economy and political science). We suggest that the teacher of the course in American literature be asked to participate in the meetings of that group even though his departmental affiliation is elsewhere.

In the light of our belief in the importance of training in foreign languages, we delegated to a subcommittee the task of re-examining teaching in this field in terms of our experience with the army program. We approve the proposals of the sub-committee which we state hereafter, realizing that some alterations may need to be made for pre-medical students if the medical
schools of the country in the post-war period require a reading knowledge of two foreign languages. Since the post-war plans of medical schools are not known at the present time, it seems feasible to set up what we consider the proper requirements and to modify these later in whatever way that may be necessary.

We propose that there be offered in each foreign language a basic course of five hours a week for one academic year. One such basic course would be required of each student. Placement examinations should be given to determine whether entering students need the whole or a part of this course. Only under exceptional circumstances could a student be credited with more than half a year's work. Each case of advanced standing in excess of this half year's work should be handled by the Dean and the language department concerned in accordance with the principle that in general the student while in college should take in his chosen language as a minimum the equivalent of one and one-half academic years in language courses that meet for five hours per week. The basic course will serve as the basis for and introduction to the second language course. It will deal with the structure of the language and will provide the basic instruction for the understanding of the language - in the modern languages this latter will include speaking.

We propose that this basic course be followed by a more advanced required course of five hours a week for an academic year. In the case of ancient languages this second course will be devoted primarily to the study of literature. In the case of the modern languages it will be divided into three sections any one of which will meet the requirement:

a) Section A, in which reading will be stressed, including the reading
of medical and scientific texts.

b) Section B, in which the principal aim will be to develop the understanding of and expression in the spoken language. Admission to this course will be determined by the ability shown in the basic course. It is in this section that the methods of the Army Specialized Training Program will, so far as possible, be employed.

c) Section C, in which the aesthetic and cultural values of the language and the literature will be stressed.

We make the following additional suggestions:

1. If the above proposals are adopted, we urge that the schedule of courses be arranged so that students may be shifted from one section to another without experiencing schedule conflicts. Such an arrangement will facilitate the resectioning of students to conform to their progress.

2. We also suggest setting up for each language a committee to advise students in regard to this program.

3. We urge that the language departments adopt the principle that each section should come into contact with more than one instructor.

4. While in the classes devoted to the structure of the language a large number of students seems feasible, since instruction would be achieved largely through the lecture method, that is not so for the classes engaged in other types of language work. We urge that whenever a class is engaged in reading it be limited to twenty students and that whenever it is working on the spoken language it be limited to ten students.

5. We urge that the modern language departments offer to students who have completed the two required courses the facilities by means of which those who so desire may maintain their language abilities. To this end we
suggest for the more advanced students courses that would meet two hours
per week for a discussion in the foreign of a previously assigned foreign
text.

6. We suggest the establishment of courses in the Russian and the
Chinese languages. We feel, however, that it would not be wise to establish
these language courses unless other studies that deal with these areas are
projected.

7. We believe that the program in foreign languages, as outlined above,could be substantially improved if in the English Composition course and in
the more advanced English courses more attention were given to the history
and the structure of English.

In the College as in the graduate school, we have been concerned about
making education a synthesis in the minds of students rather than an aggre-
gation of unassimilated items collected from a large number of courses. We
realize that the quality of the individual mind, the character of teaching
in the several courses, the intellectual associations of students apart from
their formal studies, and many other factors have much to do with whether or
not a proper integration of facts and ideas will take place. As an addi-
tional means of bringing about such integration, we have considered the
establishment of a required course in philosophy, to be taken presumably
in the junior or senior year. In that connection we adopted the following
resolution: "In order to give a good liberal education, a college needs
a vigorous Philosophy Department which has a wide influence on the students.
At least one term of philosophy should be required which would be designed
to analyze the basic methods in the various fields of knowledge."

In order to obtain breadth and co-ordination in the students' work
during the last two years, the College has been experimenting with the Group system. It has been successful on the whole; it can and should be made even more useful in promoting integration in the work of related departments. The Natural Science Group, the Pre-Medical Group, the Social Science Group and the Literature and Language Group have each independently tried various methods of achieving this integration. In the postwar years, the Groups must make a fresh start profiting from each other's disappointments and successes.

The great advantage of the Group system comes from the frequent meetings together to discuss common problems of those members of the faculty who are teaching the same group of undergraduates. More important even than the efficient performance of the specific administrative functions assigned to the Groups, are the benefits which the faculty members derive from becoming acquainted with colleagues through discussing their common difficulties and common ideals as teachers of related subjects.

An important administrative function of the Groups is recommending to the executive committee of the Board of Collegiate Studies which students should receive the A.B. degree. It is fitting that the decision whether or not a student graduates should be made by the teachers who best know him and his work. Our system of requirements for the degree is quite flexible, so flexible that it can be administered well only by a decentralized system such as we have. Since a student majors in a department, the department sets most of the tests or requirements and passes judgment on his achievement, but it is helpful to the department to talk over doubtful cases with the men in closely allied fields who also know his work. The comprehensive examinations which the Groups give as supplements to the requirements and
examinations by the departments are designed to test the student's capacity in the field as a whole. In drawing up and judging the comprehensive examinations and in considering individual student records, the faculty of the Group are reminded of the connections between their specialities and the need of continually exploring the common ground.

The group not only recommends for the degree but also makes recommenda-
tions concerning those who fail to meet the baccalaureate standard of achieve-
ment, specifying whether they should take an additional year's work, whether they may take re-examinations, and so on. These recommendations are of great assistance to the Dean of the College. It would be helpful if the Groups also examined the record of a student when as a junior he applied for acceptance as an upperclassman majoring in one of the departments within the Group. The responsibility of the Group in regard to the quality of the students under its supervision, and the extent of its corresponding power to exclude the unfit, should be more clearly defined. By a vigilant use of their special knowledge of the students, the Groups can contribute materially towards our ideal of a student body of small size and high quality.

The Group organization can and in some Groups already does facilitate an individualized handling of students' curricula. During the last two years each student's program of courses is subject to the approval of an adviser, who can guide his advisees better because of his discussions with other members of the faculty at Group meetings. Later, when the student's record is passed on by the Group, the adviser can easily explain any peculiari
ties arising from that particular student's needs and abilities.

To guide both students and advisers some model curricula have been drawn up by the action of the Groups. Two different sorts of curricula for students planning to go to law schools, a curriculum for students
interested in high-school History teaching, and the pre-medical curriculum are examples. More curricula of this sort should be developed and explained attractively to students; they are especially needed, for reasons already stated, in the social sciences and the humanities. Their natural incubators are the Groups because the faculty concerned come together to discuss undergraduates in the Group meetings.

In working out curricula in detail, the Groups may find it beneficial for certain types of students to substitute other courses in place of those which we have recommended as required courses. For example, students whose curriculum called for a full year of chemistry and a full year of physics, or more, might be allowed to substitute them for the suggested general course in physical science. Similarly, students whose curriculum called for a full year of economics and a full year of political science, or more, might be allowed to substitute one of them for the suggested half year courses in the two subjects. We recommend, however, that the substitution of other courses for the required courses be not permitted unless (a) the course is in the same field as the course for which it is substituted, and (b) the substitution is approved by the student's adviser as in accord with a curriculum recommended by one of the Groups.

In planning either comprehensive examination or curricula for students majoring within the Group, integration and balance are sought for, and in the search the Group becomes aware of deficiencies in the existing offering of courses. Various ways have been tried to remedy the gaps which have thus been discovered. In some cases new courses have been offered, in other cases additions to the faculty have been recommended to make such courses possible. More frequently, reading lists and inter-departmental seminars
or discussion groups have seemed the best means of acquainting the students with topics or disciplines not introduced by the courses regularly offered. The Natural Science Group has successfully used inter-departmental meetings at which senior students presented papers; the Social Science Group has successfully used special reading assignments outside of courses and discussion meetings led by specialists not members of the College faculty.

Because of the flexibility created by our small size and by the Group system, there is no need for us to imitate the institutions which have created special "honors courses" or plans for "reading for honors" by outstanding students. Individual teachers among us do arrange for reading courses in fields in which students move ahead speedily. The limited size of advanced classes makes it easy to give attention to students of unusual ability. Such students are often admitted to graduate classes where, among stimulating associates, they receive the freedom and the personal attention normally given graduate students.

So great have been the potential advantages revealed by the application of the Group system to the work of the last two years that we recommend that a Group be instituted to perform similar functions in regard to the first two years and the basic introductory courses which nearly fill the curricula for those years. It should be composed of those members of the faculty who do the bulk of the teaching in those courses. Since this group will undoubtedly be larger - in terms of either the number of students or the number of faculty involved - than any Group now existing, difficulties will arise and new methods will have to be devised to overcome them. But we believe the attempt is worth making. The core of the functions of this new group should be to look at the student's work as a whole during the first two years of College.
While thoroughly endorsing the Group system, urging its extension, and
even suggesting that many problems dealt with only in general terms by our
committee may profitably be referred to the Groups, or committees within
the Groups, for more detailed analyses, we would not close without first
sounding a note of caution. Like any human institution, the Groups can
become undesirable instruments of dictatorial or oligarchic control. Their
success depends on the wholehearted interest of the faculty members con-
cerned. The most important aspect of their work is not the evaluation of the
student at the end of his college career but the actual improvement of the
student during his college course. The relatively informal organization of
the Groups can be used to achieve a handling of student problems which is
both personal and efficient. The Group system has developed here in a way
which we believe to be unique. It can continue to develop to add dis-
tinction to the Johns Hopkins College of Arts and Sciences.

We recommend finally that existing college organization be utilized
or new organization be created for a careful examination of student morale
on the campus and for planning such steps for improvement as are found to be
necessary. Whether because of the disturbed atmosphere caused by the war,
or for deeper reasons, we have seen some evidence of a lack of satisfactory
esprit de corps. We recommend examination of fraternity life, athletics,
the College newspaper, the Y.M.C.A., the advisory system, and other Universi-
ty facilities which bear upon questions of morale. We recommend particular-
ly examination by the proper authorities, into possibilities of housing a
larger percentage of our students directly on the campus, whether by the
erection of fraternity houses or enlargement of present residence hall
facilities. While we agree that nothing can take the place of good teaching
in an educational institution, the completion of our full task in building well-rounded individuals requires us to give attention to problems of atmosphere and association which seems at first glance to have little to do with direct processes of education. In view of our location and the facilities available, nothing stands in the way of maintaining a college of the highest type, not merely in formal training but also in all the accompanying characteristics of a well-rounded academic community.

Respectfully submitted,

Signed:

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