DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1919, No. 22

A SURVEY OF HIGHER EDUCATION, 1916–1918

By

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[Advance sheets from the Biennial Survey of Education in the United States, 1916–1918]

WASHINGTON
GOVERNMENT PRINTING OFFICE
1919

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HIGHER EDUCATION IN THE PERIOD PRECEDING THE WAR.

PART I.

The year 1916–17 undoubtedly marks the close of an important epoch in the history of higher education in the United States. It is impossible to foretell as yet what changes will be wrought in the purposes, methods, and control of higher institutions by the war. But the events mentioned in the closing sections in this review have so completely interrupted the old order, have to such an extent broken up the mold of academic thought, that the calm resumption of the processes and ideas of the past decade is unthinkable. It may therefore be worth while to consider very briefly what have been the main tendencies and achievements in the field of higher education during the past 25 years.

Since the last decade of the nineteenth century there has been no considerable increase in the number of collegiate institutions. Twenty-five years ago there were 594 colleges and universities. In the current Report of the Commissioner of Education there are listed 574 colleges, universities, and technological schools, and 85 independent junior colleges, a total of 662 institutions which report giving instruction above high-school grade. The slight increase in the total number of higher institutions is due to the recent multiplication of junior colleges. There has, in fact, been a decrease in colleges of the older type since 1893. As the benefactions to higher education have been more numerous and substantial in the last 25 years than

ever before, it would appear that there are approximately foundations enough to provide higher educational facilities for those that need and desire them. The distribution of collegiate institutions is, however, very uneven. The East and Middle West are well supplied. The States west of the Mississippi River, on the other hand, exhibit an irregular scattering of higher institutions which, unfortunately, in many regions bears little relation to the distribution of the population to be served. It may be a safe prediction that new foundations of regular collegiate institutions, if deemed necessary at all, are more likely to be made in this region than in the other sections of the country.

In general, the need of the Nation is not so much to increase the number of higher educational institutions as to improve the quality of many of them. There is still a vast difference, as has been implied in previous reports, between what is understood as collegiate and university training in the more favored communities and what goes under the same name in communities served by ill-equipped, understaffed institutions.

The remarkable growth in the wealth and material equipment of a considerable percentage of higher institutions emphasizes this discrepancy in quality. The excellence of higher education does not depend on money alone. Nevertheless, the possession of certain material resources makes it easier for an institution to attain excellence. The well-endowed private colleges and the liberally supported State institutions have therefore set a pace in improving educational standards which less fortunate institutions have found it difficult or impossible to follow. The remarkable expansion of higher education on the material side is indicated by the amounts spent for it 25 years ago and in the year just preceding the war. In 1893 the national expenditure for higher education was $22,944,776 and in 1916, $110,532,396. The increase in the number of persons served during the same period is almost equally striking. In 1893 the total collegiate enrollment in the United States was 110,545; in 1916 it was 329,387. It is clear, then, that although the number of higher institutions has not increased very much, there has been a large increase in the amount of higher education provided.

This increase in the amount of higher education corresponds, of course, to an increasing demand for it. Indeed, one of the most patent tendencies of the last quarter of a century has been the democratization of college education. Twenty-five years ago it was regarded as the privilege of the select few, the selection not being made, however, wholly on the basis of wealth or any other artificial class distinctions. The combined pressure of State institutions, large philanthropic enterprises, and the propaganda of leading educational

writers led to the gradual spread of the belief that not only should college education be open to everybody, but that nearly everybody should have it. A certain reaction is to be noted in very recent years from this extreme position. The experiences of higher institutions with large numbers of persons of innate mental limitations has led to the growing conviction among university and college officers that, after all, higher education is for the few and not for the many. But the few must be selected by methods more liberal and democratic than any which have yet been devised.

Coincident with the tendency mentioned in the last paragraph has been the expansion and liberalization of the college curriculum. A quarter of a century ago there was practically but one curriculum for colleges of arts and sciences. Already, however, the virus of the elective system, as put into practice by Harvard, was making itself felt. By the end of another 10 years it had swept the United States, and the reaction against it in its extreme form had begun to set in. Having been freed through the elective system from the shackles of an antiquated and outworn scheme of studies, institutions now began to grope for some new unifying principle to guard against the dangers of intellectual license which appeared in the general working out of the elective system. The new mechanism is the group system. Under various manifestations this principle of curriculum formation has been generally adopted in the public and nonsectarian institutions of the country. Certain colleges and universities under denominational auspices retain in substance the formal curriculum of the late nineteenth century.

The liberalization of college curricula has gone hand in hand with a closer articulation between colleges and secondary schools. In fact, the problem of perfecting this articulation has occupied perhaps an undue amount of the attention of associations of both college and school officers during the past quarter of a century. On the one hand, the schools, responding to a vigorous popular pressure, have asserted their right to an independent development, free from the domination of higher institutions. On the other, the colleges, yielding to the new doctrine of the extension of higher education (and to the ever-present urge for numbers), have abated the rigid prescriptions of subjects which were common 25 years ago. The decline of the entrance examination and the development of accrediting systems are complementary movements during this period. The present extent of coordination between the colleges and secondary schools is indicated in this review (see p. 9).

Foremost in this movement have been naturally the State-supported higher institutions. These, which were conceived as the apex of the school systems of their respective States, have won their way to a degree of influence and popularity which could not have been

foreseen 25 years ago. Indeed, the enormous expansion of State universities and State colleges of agriculture and mechanic arts is one of the outstanding features of the recent history of higher education in this country.

The variation in the excellence of the work done by different types of higher institutions has already been alluded to. With the growth in the number of persons availing themselves of higher educational opportunities, and the increasing mobility of the population of the United States, colleges have been brought into ever-closer and more frequent comparisons with one another. Migrations of students from one institution to another have become more and more common. Larger numbers have gone forward every year from the baccalaureate course to professional and graduate study. The discrepancies in standards, therefore, become painfully apparent. One of the most important tendencies of the last 15 years has been the tendency toward standardization of higher institutions. (This carries with it also a certain amount of standardization of secondary schools.) A large number of agencies have first and last engaged in this work. Associations of higher institutions, both regional and national, independent educational foundations, church boards, and several governmental offices have all played a part. If it were possible to measure higher education or the efficiency of institutions by purely objective criteria applied to the institution and not to its product, one might regard the problem of standardization as solved. Nearly all of the agencies just referred to have elaborated and defined such quantitative measurements as may be applied to an organization which after all eludes the most precise measuring stick. While undoubtedly much good has been accomplished by the activities of standardizing agencies, it is only just to record that there has been also a certain amount of damage. The American educational public has come to think too largely in terms of credits, counts, or material equipment. Confirmation of this statement appears in the evidence recorded in the last five Reports of the Commissioner of Education, and in the proceedings of nearly every sectional and national educational association. Fortunately the reaction against the tendency to estimate all education in quantitative terms has already set in. It should be accelerated by the educational experiences of the war.

Later in the report mention is made of the extraordinary growth of land-grant colleges and the development of university courses in applied science. No doubt the foreign observer would find this phase of our recent educational history the most impressive of all. The relative strength of the liberal college has declined in favor of the vocational higher institution. Colleges and universities not under State control, and primarily founded for the purpose of provid-

ing education in the liberal arts, have been forced by public demand to add numerous professional curricula, such as commerce, journalism, business administration, and the several varieties of engineering. But in this great movement the land-grant colleges and the State universities have been the leaders.

STANDARDIZING AGENCIES.

NON-STATE ACCREDITING AND EXAMINING BOARDS.

Perhaps no question has occupied the time of college and high-school officers more than the administration of college entrance requirements. The organizations charged with the responsibility of controlling entrance examinations have increased in number till they now influence nearly every secondary school of significance in the United States. A numerical summary of the extent of this activity is given in the following pargraphs.

THE NEW ENGLAND COLLEGE ENTRANCE CERTIFICATE BOARD.

The sixteenth annual report of the New England College Entrance Certificate Board states that—

> the total number of schools that had the certificate privilege last year from the board is 543, of which 81 had the specimen certificate privilege. Four hundred and fifteen of these (about 76 per cent, as against 84 per cent last year) sent one or more pupils on certificate to the colleges represented on the board. At the present time there are 47 schools on the trial list, 429 on the fully approved list, making a total of 476. To these may be added 74 schools that had the right of sending special students on certificate, making a grand total of 550 schools that have the certificate privilege of the board for the coming year.

The following institutions comprise the membership of the New England College Entrance Certificate Board: Amherst College, Bates College, Boston University, Bowdoin University, Brown University, Colby College, Massachusetts Agricultural College, Middlebury College, Mount Holyoke College, Smith College, Tufts College, University of Vermont, Wellesley College, Wesleyan University, Williams College.

THE COLLEGE ENTRANCE EXAMINATION BOARD.

The College Entrance Examination Board examined 9,265 candidates during the year 1916–17. According to the secretary's report, 988 schools sent candidates to the board's examinations. Of these, 525 were public schools and 463 private schools, sending 2,823 and 6,071 candidates, respectively. In addition there were 371 candidates, who were conditioned college students or were prepared by private tutors or were self-prepared or neglected to state how they received their preparation. The public schools sent to the examination 961 fewer candidates than last year, the loss in boys being 792 and in

girls 169. From the private schools there was a loss of 403 boys which was offset in part by a gain of 113 girls. The total number of boys taking the board's examinations in 1918 was less than last year by 1,338.

INCREASING RECOGNITION OF THE COMPREHENSIVE EXAMINATION PLAN.

"Notwithstanding the fact that the number of candidates taking the board's examinations was less this year than last, the number of candidates presenting themselves under the new plan of admission increased from 495 to 580." In 1918 this number has increased to 752.

Under this plan the certificate and examination methods of admission are combined. The candidate presents a certificate from the secondary school testifying to the quantity of work covered. The college takes a sample of the quality by examining him in four subjects. The examination is designed to test the candidate's general knowledge of a given subject and his intellectual power, not to ascertain whether he has mastered a prescribed book or course.

THE NORTH CENTRAL ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS.

The North Central Association of Colleges and Secondary Schools at the meeting of March 23–24, 1917, reported 108 colleges, 51 institutions primarily for the training of teachers, and 8 junior colleges on its list of accredited higher institutions. Altogether, 1,225 schools reported, of which 1,164 were finally accredited; 913 were accredited unqualifiedly, 215 were accredited with warning, 39 of the old schools were dropped, and 75 new schools were added.

THE ASSOCIATION OF COLLEGES AND PREPARATORY SCHOOLS OF THE MIDDLE STATES AND MARYLAND.

The Association of Colleges and Preparatory Schools of the Middle States and Maryland reported for 1917 a membership of 68 universities and colleges and 154 secondary schools.

THE ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS OF THE SOUTHERN STATES.

The Association of Colleges and Secondary Schools of the Southern States reported for 1917 a membership of 42 universities and colleges and 47 secondary schools.

Taken altogether, the foregoing reports show for the year 1917 the number of 2,896 public and private secondary schools which are directly affiliated with one or more of these six accrediting or examining organizations.

STATE ACCREDITED SECONDARY SCHOOLS.

The following table shows, for the year 1916, 8,075 secondary schools on the accredited lists of State boards of education or State

universities, or both. As the total number of public and private high schools reported for 1916 is about 14,000, it is of interest to observe that at least 58 per cent of the high schools are connected with a State standardizing or accrediting agency.

Summary of State accredited secondary schools in the United States, 1916.

[The cross (×) means yes.]

States.	Accredited secondary schools.	Accredited by State board.	Accredited by State university.	Units required by— State board.	Units required by— State university.	Observations.
Alabama	121		×		14	
Arizona	44	×	×	15		23 by State board and 21 by State university.
Arkansas	82	×	×		14	
California	278		×	15		In 1914-15.
Colorado	73		×	15		In 1915-16.
Connecticut	64	×				Units not specified.
Delaware	11	×	×			State university accredits 10 only. Units not specified.
District of Columbia	11					Accredited by standard university. Units not specified.
Florida	50	×	×	16		
Georgia	97		×	15	14	59 institutions with 15 units; 38 with 14 units.
Idaho	75		×	15		
Illinois	462	×	×	15		385 by State university; 77 by State department.
Indiana	431	×	×	16		
Iowa	351	×	×	15		
Kansas	385	×	×	15		99 class A; 70 class B I; 108 class B II; 86 class B III; 13 unclassified.
Kentucky	191		×	15		96 class A; 95 class B.
Louisiana	160	×	×		11	18 of the 160 belong to supplementary lists of State universities.
Maine	199	×			14	
Maryland	61	×			14	35 first group; 26 second group.
Massachusetts	76	×		15		
Michigan	269		×	15		
Minnesota	261	×	×	15		
Mississippi	144		×		11	Affiliated with the State university.
Missouri	239	×	×	15		
Montana	73	×	×	15		
Nebraska	267		×	15		104 group A; 141 group B; 22 group C.
Nevada	17		×	15		
New Hampshire	79	×			14	
New Jersey	193	×				Four full years required.
New Mexico	35	×	×	15	14	19 approved by University of New Mexico; 16 approved by State department.
New York	714	×				Units not expressed.
North Carolina	44		×		14	
North Dakota	53	×	×	15		
Ohio	606	×	×	15		First grade secondary schools.
Oklahoma	22	×	×	15		
Oregon	74	×	×	15		
Pennsylvania	333	×				Units not stated.
Rhode Island	20	×		15		
South Carolina	29		×			
South Dakota	78	×	×			
Tennessee	117		×		14	Schools fully accredited.
Texas	307	×	×		14	144 group 1 of State universities; 103 on State department lists, besides States universities.
Utah	31	×	×	15		
Vermont	79	×				Units not given.
Virginia	176	×	×		14	
Washington	164	×	×	15		
West Virginia	92	×	×	15		First class secondary schools.
Wisconsin	319		×		11	
Wyoming	28		×	15		
Total	8,075					

RECENT ATTEMPTS OF NATIONAL AND REGIONAL ASSOCIATIONS AT COLLEGIATE STANDARDIZATION.

Several influential associations of higher institutions have in the past two years added to the already numerous definitions of the standard college and of the junior college. The following are probably the most significant of these efforts.

THE ASSOCIATION OF AMERICAN COLLEGES.

The Association of American Colleges has published a study by Dr. Calvin H. French which in substance establishes three grades of standard colleges. Dr. French designates these as the minimum college, the average college, and the efficient college. The pith of this interesting report is given here:

Comparative table showing the minimum, the average, and the efficient college.

Items compared.	The minimum college, based on 45 typical institutions.	The average college, based on 16 typical institutions.	The efficient college.
Total units required for entrance	15	15	15
Total hours required for graduation	60	60	60
Number of instructors, excluding president and library officials	8	11	45
Teaching hours per week (approximate)	15	15	15
Enrollment	100	165	500
Cost of administration	$7,325	$6,258	$18,650
Cost of instruction	12,000	16,941	99,000
Cost of maintenance	12,675	12,941	49,100
Total cost	32,000	36,214	166,750
Average salaries of all instructors	1,500	1,210	2,150
Salary of president	2,500	2,500	5,000
Average value of plant	350,000	236,857	985,000
Average value of endowment	432,000	455,010	2,215,000
Total assets	782,000	691,867	3,200,000

According to Dr. French, we mean by college efficiency that "all the forces of the institution are working adequately and with the least possible waste to accomplish its chief ends." Can this be done when the library and laboratories are inadequately equipped and supported, or its teachers underpaid and overloaded with work? These are prevalent conditions in many splendid colleges which, however, are not efficient colleges. The following digest gives a summarized statement of the financial needs of standard colleges with from 200 up to 1,000 students:

A standard college of 200 students is one that has a faculty of 21, giving it the equivalent of 17 full-time teachers and 4 full-time administrative officers; an income of $10,800 from tuitions, $1,000 from other fees, $7,000 from room rents or other sources, and $38,700 from endowment; an expenditure of $27,500 for instruction, $10,000 for administration, and $20,000 for maintenance;

a productive endowment of $774,000 and a plant worth $500,000, making a total property of $1,274,000.

A standard college of 300 students should have a faculty of 31, giving it the equivalent of 26 full-time teachers and 5 full-time administrative officers; an income of $20,250 for tuitions, $1,500 from other fees, $10,500 from room rents or other sources, and $58,250 from endowment; an expenditure of $45,000 for instruction, $15,000 for administration, and $30,000 for maintenance; a productive endowment of $1,165,000 and a plant worth $750,000, making a total property of $1,915,000.

The standard college of 500 students calls for a faculty of 51, yielding the equivalent of 44 full-time teachers and 7 full-time administrative officers; an income of $45,000 from tuitions, $2,500 from other fees, $17,500 from room rents or other sources, and $111,000 from endowment; an expenditure of $99,000 for instruction, $27,000 for administration and $50,000 for maintenance; a productive endowment of $2,220,000 and a plant worth $1,000,000, making a total property of $3,220,000.

Standard colleges of 750 students will have, on these estimates, a faculty of 74, yielding the equivalent of 64 full-time teachers and 10 full-time administrative officers; an income of $67,500 from tuitions, $3,250 from other fees, $26,250 from room rents or other sources, and $197,000 from endowment; an expenditure of $171,000 for instruction, $40,000 for administration, and $80,000 for maintenance; a productive endowment of $3,940,000 and a plant worth $1,750,000, making a total property of $5,690,000.

The standard college of 1,000 students requires a faculty of 97, yielding the equivalent of 85 full-time teachers and 12 full-time administrative officers; an income of $90,000 from tuitions, $5,000 from other fees, $35,000 from room rents or other sources, and $321,500 from endowment; an expenditure of $262,500 for instruction, $60,000 for administration, and $120,000 for maintenance; a productive endowment of $6,250,000 and a plant worth $2,400,000, making a total property of $8,650,000.

From the standpoint of a study of 52 colleges and universities, Dr. French has decided that 55 per cent of the income should go to instruction, 30 per cent to maintenance, and 15 per cent to administration. Only 20 per cent of the income should be obtained from the students; the remaining 80 per cent should come from endowments.

THE ASSOCIATION OF AMERICAN UNIVERSITIES.

For nearly 20 years the Association of American Universities has considered problems relating to graduate study. Among these problems is that of the proper classification of universities and colleges with respect to their qualifications for preparing candidates for graduate work. At the last meeting of the association held at the State University of Iowa, November 9 and 10, 1917, the committee on classification of universities and colleges presented the following report:

The Association of American Universities approves the following revision of the list of universities and colleges accepted in 1913. It recognizes the institu-

tions in this undifferentiated list as falling within the three groups described by the association in 1914 in the following terms:

GROUP A. Institutions whose graduates should ordinarily be admitted to the graduate schools of this association for work in lines for which they have had adequate undergraduate preparation, with a reasonable presumption that advanced degrees may be taken with the minimum amount of prescribed work and in the minimum time prescribed. Students who choose work in lines for which their undergraduate course has not prepared them adequately must expect to take more time and do additional work.

GROUP B. Institutions from which only those graduates of high standing in their classes who are individually recommended by the department of undergraduate instruction corresponding to that in which they purpose to do their graduate work may be admitted on the same basis as graduates from institutions in Group A.

GROUP C. Other institutions whose graduates should be admitted to graduate schools, but with the presumption that more than the minimum time and minimum amount of work will be ordinarily required for an advanced degree.

Graduates of these institutions (in the case of newer and smaller institutions the graduates of recent classes) presumably will be eligible for admission, with the limitations and reservations stated above to graduate citizenship or status, but without commitment as to the equivalency of the bachelor's degree of an individual student with that of the university admitting him, and without commitment as to the time which will be required by such students to secure an advanced degree.

DEFINITION OF EDUCATIONAL TERMS.

A subcommittee of the National Conference Committee on Standards of Colleges and Secondary Schools, appointed some years ago at the suggestion of Commissioner Claxton, presented on March 1, 1918, a report making certain recommendations which, after modification, were adopted, as follows:

The term "department" is restricted to the various subjects taught; as, for instance, department of Latin, mathematics, of physics, etc.

The term "course" is restricted to the instructional subdivisions of a subject; as, for instance, Course I in English.

The term "group" is restricted to a combination of subjects related in content or method; as, for instance, the group of classical languages, of the biological sciences, etc.

The term "curriculum" is restricted to a combination of courses leading to a certificate, a diploma, or a degree.

The term "division" is restricted to the larger administrative units of a college or university; as, for instance, the extension division, the division of agriculture, the division of arts and sciences.

The term "school," as applied to part of a university, is restricted to that part the standard of admission to which is not less than the equivalent of two years' work in the college, and which offers instruction of not less than two years' duration, leading to a technical or professional degree.

After a long discussion as to the definition of "college," it was voted to print the following provisional definition for criticism and further discussion, action to be taken by the committee next year:

A "college" is an institution requiring for admission graduation from a standard secondary school, or the equivalent, and offering a four-year curriculum leading to the first degree in arts or science, of such character as to qualify for admission to a graduate school of recognized standing.

Such an institution is indicated by the following characteristics:

A minimum requirement for admission of 15 units of secondary work, not more than 2 units of conditions being allowed, all special students under 21 years of age being required to meet all of the usual requirements for admission, preparatory courses, if any, being distinct in faculty, students, and discipline.

A program of studies having a reasonable relation to the resources of the institution.

A curriculum of 4 years of at least 32 weeks each of actual instruction.

Not less than eight departments, each having at least one full-time professor.

A staff, two-thirds of which are of professorial rank, having had at least 4 years of study in a graduate school of good standing, receiving salaries of approximately $2,000 a year, and teaching not more than 16 hours a week.

A minimum productive endowment, beyond all indebtedness, of at least $250,000.

An annual income of at least $40,000 a year, at least half of which is expended for instruction.

An expenditure of at least $1,000 a year for laboratory equipment and apparatus, and of at least $500 a year for books and periodicals.

An annual or biennial published report of assets, income, expenditure, faculty, curricula, and student body.

THE NORTH CENTRAL ASSOCIATION REPORT ON STANDARDS OF ACCREDITING COLLEGES AND UNIVERSITIES.

The North Central Association at the meeting of March 21, 1918, withdrew its membership from the National Conference Committee, and at the same time adopted a separate report embodying standards for accrediting American colleges and universities. The standards given herewith involve the definition of the "standard American college," a definition which differs in many respects from that adopted provisionally by the National Conference Committee:

The "standard American college" is a college with a four-year curriculum, with a tendency to differentiate its parts in such a way that the first two years are a continuation of, and a supplement to, the work of the secondary instruction as given in the high school, while the last two years are shaped more or less distinctly in the direction of special, professional, or university instruction.

The following constitute the standards for accrediting colleges for the present year (1918):

1. The minimum scholastic requirement of all college teachers shall be equivalent to graduation from a college belonging to this association, and graduate work equal at least to that required for a master's degree. Graduate study and training in research equivalent to that required for the Ph. D. degree are urgently recommended, but the teacher's success is to be determined by the efficiency of his teaching as well as by his research work.

2. The college shall require for admission not less than 14 secondary units, as defined by this association.

3. The college shall require not less than 120 semester hours for graduation.

4. The college shall be provided with library and laboratory equipment sufficient to develop fully and illustrate each course announced.

5. The college, if a corporate institution, shall possess a productive endowment of not less than $200,000.

6. The college, if a tax-supported institution, shall receive an annual income of not less than $50,000.

7. The college shall maintain at least eight distinct departments in liberal arts, each with at least one professor giving full time to the college work in that department.

8. The location and construction of the buildings, the lighting, heating, and ventilation of the rooms, the nature of the laboratories, corridors, closets, water supply, school furniture, apparatus, and methods of cleaning shall be such as to insure hygienic conditions for both students and teachers.

9. The number of hours of work given by each teacher will vary in the different departments. To determine this, the amount of preparation required for the class and the time needed for study to keep abreast of the subject, together with the number of students, must be taken into account; but in no case shall more than 18 hours per week be required, 15 being recommended as a maximum.

10. The college must be able to prepare its graduates to enter recognized graduate schools as candidates for advanced degrees.

11. The college should limit the number of students in a recitation or laboratory class to 30.

12. The character of the curriculum, the efficiency of instruction, the scientific spirit, the standard for regular degrees, the conservatism in granting honorary degrees, and the tone of the institution shall also be factors in determining eligibility.

13. No institution shall be admitted to the approved list unless it has a total registration of at least 50 students if it reports itself a junior college and of at least 100 students if it carries courses beyond junior college.

14. When an institution has, in addition to the college of liberal arts, professional or technical schools or departments, the college of liberal arts shall not be accepted for the approved list of the association unless the professional or technical departments are of an acceptable grade.

No institution shall be accredited or retained on the accredited list, unless a regular blank has been filed with the commission, and is filed triennially, unless the inspectors have waived the presentation of the triennial blank.

THE JUNIOR COLLEGE.

Three types of junior colleges have recently evolved in this country. The first type, exemplified in the junior colleges of California, is an integral part of the State educational system. The establishment of junior colleges in connection with the city school system tends to keep at home in the local junior colleges large numbers of freshmen and sophomores who otherwise would overcrowd the large universities and make difficult the prosecution of advanced collegiate and university work. The desire to relieve the expensive university plants from the pressure of an undue number of immature students has been an influential factor in the spread of junior colleges of this type.

The second type is found in Missouri and in the South and Southwestern States. These junior colleges are largely the result of the contraction of small denominational colleges whose degrees and

equipment failed to meet the high standards of the leading State universities of those regions.

The third type of junior college has recently appeared in Wisconsin, the State legislature having granted the State normal schools the privilege of reorganizing their work on the junior college plan.

DISTRIBUTION OF JUNIOR COLLEGES IN THE UNITED STATES.

The following table gives the number and distribution by States of the independent junior colleges:

TABLE 1.—*Number and distribution of junior colleges.*[1]

	Junior colleges.		Junior colleges.
California	15	Minnesota	2
Missouri	13	West Virginia	2
Virginia	10	Idaho	1
Texas	10	Iowa	1
Illinois	8	Kansas	1
Kentucky	4	Louisiana	1
Georgia	3	Oregon	1
North Carolina	3	Washington	1
Tennessee	3		
Alabama	2	Total	85
Michigan	2		

[1] Not including the normal schools of Wisconsin

STANDARDS OF ACCREDITING JUNIOR COLLEGES.

The growth of the junior college in its varied forms has called for the adoption of certain standards applicable to these institutions. With this in mind the North Central Association of Colleges and Secondary Schools, at its 1918 meeting, adopted the following standards of accrediting junior colleges:

A "standard junior college" is an institution with a curriculum covering two years of collegiate work (at least 60 semester hours, or the equivalent in year, or term, or quarter credits), which is based upon and continues or supplements the work of secondary instruction as given in an accredited four-year high school. A semester hour is defined as one period of classroom work in lecture or recitation extending through not less than 50 minutes net or their equivalent per week for a period of 18 weeks, two periods of laboratory work being counted as the equivalent of one hour of lecture or recitation.

1. The minimum scholastic requirements of all teachers of classes in the junior college shall be graduation from a college belonging to this association, or an equivalent, and in addition, graduate work in a university of recognized standing amounting to one year.

2. The junior college shall require for registration as a junior-college student the completion by the student of at least 14 units of high-school work as defined by this association.

3. The work of the junior college must be organized on a collegiate as distinguished from a high-school basis.

4. The teaching schedule of instructors teaching junior-college classes shall be limited to 22 hours per week; for instructors devoting their whole time to junior-college classes 18 hours shall be a maximum; 15 hours is recommended as the maximum.

5. The limit of the number of students in a recitation or laboratory class in a junior college shall be 30.

6. Students registered in a junior college who are permitted to enroll in regular high-school classes shall not be given full junior-college credit for such work, and in no case shall the credit thus given exceed two-thirds of the usual high-school credit. No junior college will be accredited unless it has a registration of 25 students if it offers but a single year, and 50 students if it offers more than a single year.

7. The junior college shall have library and laboratory facilities sufficient to carry on its work the same as it would be carried on in the first two years of an accredited standard college.

FIFTY YEARS OF THE LAND-GRANT COLLEGES.

Perhaps no institutions have grown more rapidly in power and in the public favor than the land-grant colleges. These institutions distinctly belong to the State; at the same time they are the only group of institutions with Federal affiliations. Because of this dual attachment they have played an increasingly important part in developing not only our great national resources but also a true national spirit. The important place which the applied sciences now hold in modern university curricula is in a large measure due to the progressive educational policies of the land-grant colleges. Every State in the Union, including the Territories of Hawaii and Port Rico, has one or more institutions receiving the benefits of the Federal land-grant college funds. Alaska is the only Territory which has not established a college of agriculture and mechanic arts, although it has recently accepted the offer of Federal support. Of the 68 land-grant institutions, 51 are for whites and 17 for negroes. The following comparative tables show the general status of these institutions from the standpoints of attendance, teaching force, and income:

Comparative statistical table of land-grant colleges at the close of nearly 50 years of existence.

ENROLLMENT.

Average number of white students:		Average number of all land-grant college students:	
In 1913–1915	110,354	In 1913–1915	120,064
In 1915–1917	120,969	In 1915–1917	131,952
Increase	10,615	Increase	11,888
Per cent of increase	9.8	Per cent of increase	9.9
Average number of colored students:			
In 1913–1915	9,710		
In 1915–1917	10,982		
Increase	1,272		
Per cent of increase	13		

Comparative statistical table of land-grant colleges at the close of nearly 50 years of existence—Continued.

NUMBER OF TEACHERS.

Average number of white teachers:		Average number of all land-grant college teachers:	
In 1913–1915	9,380	In 1913–1915	9,900
In 1915–1917	9,885	In 1915–1917	10,420
Increase	505	Increase	520
Per cent of increase	5.3	Per cent of increase	5.2
Average number of colored teachers:			
In 1913–1915	520		
In 1915–1917	539		
Increase	19		
Per cent of increase	3.6		

STUDENTS ENROLLED IN MILITARY SCIENCE.

Average number of white students:		Average number of all students:	
In 1913–1915	27,673	In 1913–1915	29,905
In 1915–1917	32,486	In 1915–1917	34,222
Increase	4,815	Increase	4,317
Per cent of increase	17	Per cent of increase	14.4
Average number of negro students:			
In 1913–1915	2,232		
In 1915–1917	1,732		
Loss	496		
Per cent of loss	22		

TOTAL INCOME.

Average total income:	
In 1913–1915	$33,333,859
In 1915–1917	$39,600,345
Increase	$6,266,486
Per cent of increase	18.7

THE ASSOCIATION OF AMERICAN AGRICULTURAL COLLEGES AND EXPERIMENT STATIONS.

The Association of American Agricultural Colleges and Experiment Stations (the principal collegiate association with an exclusively land-grant college membership) in its last two meetings has given special attention to the questions of internal administration. The complex character of the land-grant college, with its divisions of liberal arts, agriculture, engineering, home economics, and experiment stations, has raised problems somewhat difficult of solution. The committee on college organization and policy of the association at its 1917 meeting made a report concerning the administrative relationships of the agricultural college. The report, which was accepted by the association, was based upon a statement of principles and recommendations prepared by the specialist in agricultural education of the Bureau of Education. The recommendations contained in the report[1] follow:

1. That the individual specialist, capable of working independently, should be regarded as the unit of organization.

[1] An amplification of these recommendations may be found in Higher Education Circular No. 8, U. S. Bureau of Education.

2. That the group of working specialists on any one of the recognized subjects, regardless of the kind of service, should constitute the subject-matter department.

3. That specialists should devote their time mainly to one kind of service, but provision should be made for exchanges for the mutual advantage of each.

4. That one member of each department should be designated as chairman, or administrative head.

5. That the members of the subject-matter department should be given a voice in the designation of their chairman or administrative head.

6. That authority for subject matter should be confined to the group of specialists comprising the subject-matter department, and that administrative control should be limited to the amount and method of work.

7. That the distribution of administrative authority should be on the basis of the kind of service.

8. That the three kinds of service, each in charge of a secondary administrative officer, should be coordinated under a chief executive who, in the case of a large institution composed of several faculty groups, should be an officer other than the president.

9. That the official designation "dean" in an agricultural college should be applied only to the chief executive officer who is responsible for the coordination of the three phases of agricultural service, and that of "director" should be applied to the coordinate officers in charge of each of the three lines of service—resident instruction, research, and extension.

10. That when one individual performs the duties of two or more offices his official designation should identify clearly the officer with the respective offices assigned.

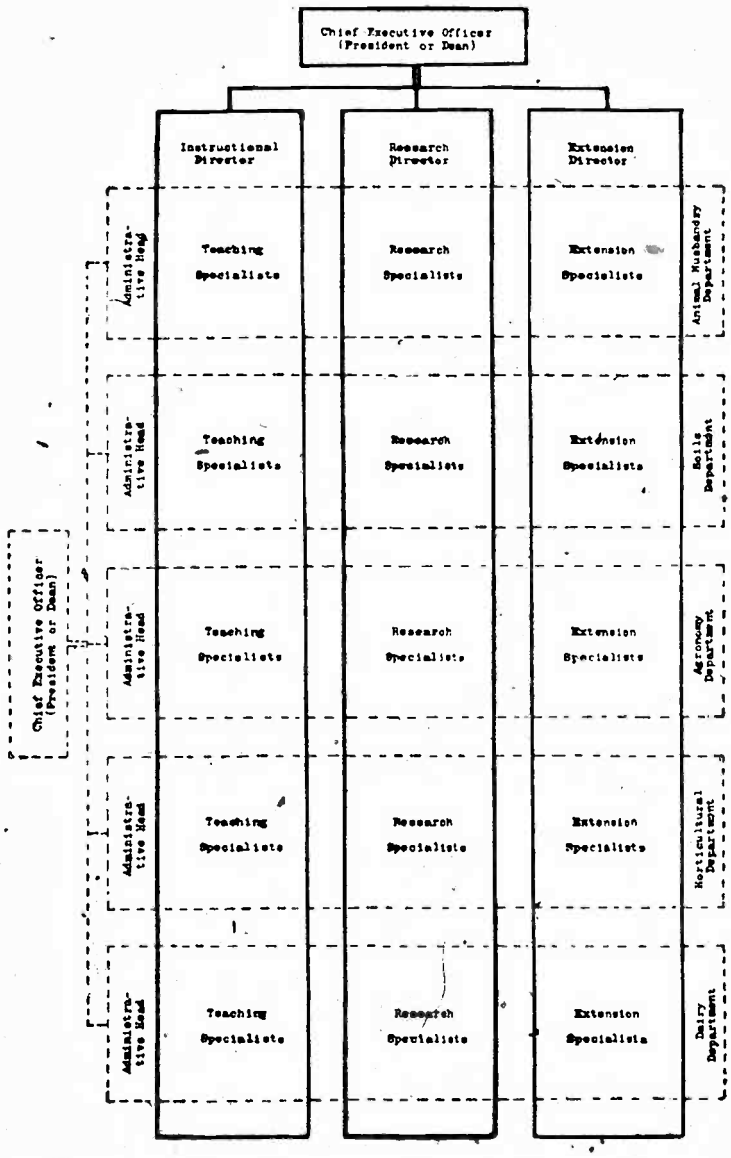
11. That the leaders in charge of the various phases of the extension service should be regarded as administrative officers and should not usurp the duties of the specialists in the various subjects. Where an individual serves both as specialist and administrative leader, a dual responsibility should be recognized.

12. That in the promotion of extension projects controlled by either connected or cooperating colleges, the same administrative relations with the subject-matter departments concerned should exist as with departments that are organically connected.

13. That incoming correspondence, except that of an administrative nature, should be referred to the subject-matter departments concerned, and there referred to the individual best qualified to supply the information called for.

14. That specialists in whatever kind of service should be on an equal basis from the standpoint of rank and official designation. If differentiation of extension and research specialists is desirable, the prefixes "extension" and "research," respectively, may be used in connection with the customary professorial titles.

The accompanying diagram may serve to explain the administrative relationships referred to above.



Common administrative relationships in colleges of agriculture. Administrative authority follows two channels—one through the directors in charge of each kind of service and the other transversely through the several heads of departments—frequently resulting in conflict. The remedy consists in transferring administrative authority from the heads of departments to the directors of the three kinds of service, resulting in single administrative control.

A NEW ASSOCIATION—THE AMERICAN ASSOCIATION OF UNIVERSITY INSTRUCTORS IN ACCOUNTING.

The teachers of accounting of 16 universities met at Columbus, Ohio, December 28, 1916, and formed an organization known as the American Association of University Instructors in Accounting. The purpose of this organization is to advance the cause of education for business through the study of accounting, to have suitable opportunities for the discussion of problems, to promote more intimate mutual acquaintanceship, to further the standardization of courses, and to recommend policies regarding the reception of migrating students.

The charter members are from the following universities: California, Duquesne, Pittsburgh, Cornell, Yale, Ohio State, Ohio, Cincinnati, Oregon, Wisconsin, Texas, Illinois, Minnesota, Northwestern, Brigham Young, and New York. The association reported 154 degree-granting institutions which offer courses in accounting in this country.

UNIVERSITY SURVEYS AND THE SURVEY MOVEMENT.

Since 1915, eight States[1] have voluntarily submitted their tax-supported higher educational institutions to expert criticism in order to determine their needs with more scientific precision. These surveys have been conducted under the auspices of the Bureau of Education, with cooperation of experts of State and National reputation. The result is that the colleges, on the whole, have been able to strengthen their influence in their constituencies, and correspondingly, the general public and the legislatures have been led to give a more intelligent and sympathetic support than heretofore. The reports of the surveys of the State institutions of Oregon, Iowa, Washington, North Dakota, and Nevada have been discussed in preceding reports. (See Reports of the Commissioner, 1915, pp. 145; 1916, pp. 121.)

THE SURVEY OF THE UNIVERSITY OF ARIZONA.

During the fall of 1916 a survey of educational conditions in the State of Arizona was begun. The study of the State university was made by the specialist in higher education of the Bureau of Education, and President Livingston Farrand, of the University of Colorado.

[1] The following States have concluded surveys of their State-supported institutions of higher education: Oregon, Iowa, in 1915; Washington, North Dakota, Nevada, Arizona, in 1916; South Dakota in 1917. The reports of the first five surveys, with the exception of the Oregon survey, are now published as bulletins of the Bureau of Education. The other reports are in press. The University of Oregon survey is published by the university.

The following brief summary includes a few of the more important recommendations of the committee:[1]

Summary of recommendations.

(*a*) The better adaptation of the college courses to the needs of the State.

(*b*) The rejection by the legislature of any proposals to separate the college of agriculture or any other technical division from the main body of the university, and to establish it at another place.

(*c*) The extension of the tenure of office of the regents from four to eight years.

(*d*) A more definite policy respecting the tenure of the university faculty.

THE SOUTH DAKOTA SURVEY.

The South Dakota survey was conducted during the fall and winter of 1917. The survey committee was composed of the specialist in rural school practice, the specialist in higher education, and the specialist in agricultural education of the Bureau of Education, in collaboration with Prof. Alexander Inglis, of Harvard University, and local officers appointed by the State. The following brief summary of recommendations is given:

1. It was recommended that the State university, the State college, and the State school of mines be consolidated into a single institution, located preferably in the central portion of the State.

2. In case consolidation seems impracticable, it was recommended that the school of mines be abolished and that the State university and the State college readjust their curricula and courses so as to avoid needless duplication. The principle of major and service lines of work was reindorsed.

3. It was also recommended that one or more junior colleges be established as a part of the State higher educational system.

In this and other surveys the Bureau of Education has stood for policies which would tend to improve the mutual relations of State-controlled institutions of higher education in harmony with the peculiar needs of each State. The bureau has consistently urged the continuance or the adoption of the principle of consolidation when practicable. It has also pointed out the distinctive fields of each State institution on the basis of justifiable duplication when consolidation was impracticable.

THE SUPREME COURT OF MASSACHUSETTS SETS ASIDE THE HARVARD-TECHNOLOGY AGREEMENT.

For nearly three years Harvard University and Massachusetts Institute of Technology have avoided expensive duplication in the teaching of engineering by the adoption of an excellent plan of

[1] For a more extended discussion of this and other surveys see Bulletin, 1918, No. 45, Educational Surveys. For report on normal schools see Bulletin, 1917, No. 48, Educational Conditions in Arizona.

cooperation. Under this plan the university turned over to the institute three-fifths of the income of the McKay endowment (now about $1,500,000) and agreed to use the extensive laboratories of the institute for the training of men seeking engineering degrees. The engineering faculties of both institutions were merged into a single faculty, which worked under the executive control of the president of the institute. Each institution retained control of its own expenditures and determined its own engineering degree requirements. According to President Maclaurin, the "agreement marked an epoch in the history of educational progress in this country." "The end sought was to build up an educational machine more useful to the community and to the Nation than anything that could be maintained by either the institute or the university acting independently." The result of the merger has proven very satisfactory, both institutions having gained thereby in educational power.

Inasmuch as the validity of the agreement had been questioned, the university asked the supreme court of the State for a decision on the matter. The following extracts from the decision made November 27, 1917, are given herewith:

> Mr. McKay intended that not only the investment of the endowment funds but the education which his endowment was to make possible should be under the control and direction of the university, its government, and administration.
>
> In our opinion, the intention of Gordon McKay is not in fact carried out in the agreement in controversy, as we have construed its provisions in their practical operation.
>
> We are constrained to instruct the plaintiff that it can not lawfully carry out this agreement between it and the institute, as far as respects the property received by the University, under the deeds of trust and the will of Gordon McKay.—(Massachusetts Reports, 228, 1918.)

According to Prof Swain:

> The decision indicates quite clearly that it was not cooperation with Technology in itself that was considered to render the agreement invalid, but only the character of that cooperation. It had the appearance of putting too much control of school and finance into the hands of Technology. The Technology faculty had practical control of the Harvard school.

Notwithstanding the adverse opinion of the court, the authorities of both institutions set about to develop a new plan which would yield the advantages of cooperation without being contrary to the provisions of the McKay will. A plan was recently adopted which seems to meet the necessary requirements, having received the approval of the trustees of the McKay estate and the governing boards of the university, and it now awaits the approval of the court. The new plan follows:

> Voted to establish a school of engineering upon the following basis:
>
> *Whereas*, in reconstructing an engineering school in Harvard University, it is important to lay stress upon fundamental principles; to make use of the

courses in Harvard College so far as is consistent with the curriculum of the school; and to conduct the school under a faculty of its own, the corporation hereby adopts the following plan of organization:

1. Name. The name of the school shall be the Harvard Engineering School.

2. Departments. The school shall provide "all grades of instruction from the lowest to the highest," and the instruction provided shall "be kept accessible to pupils who have had no other opportunities of previous education than those which the free public schools afford."

3. Admission. Inasmuch as the entrance examinations to Harvard College now admit freely boys from good high schools, the requirements for admission to the engineering school shall be the same as for admission to Harvard College. Admission to advanced standing and special study shall be administered by the engineering faculty.

4. Fees. The fees of students in the school shall be the same as for students in Harvard College, except that supplementary fees for additional or for laboratory courses may be charged.

5. Classrooms and laboratories. The work of the school shall be carried on in the classrooms and laboratories of the university, but arrangements may be made from time to time for the use of the facilities of other institutions for any part of the work (in its advanced technical courses) when the needs, financial resources, and best interests of the school so require.

Arrangements for the use of facilities of other institutions, or the interchange of instruction, shall be made for a period of only one year at a time.

When there shall be income from the funds of the McKay endowment available, in the judgment of the president and fellows, for the construction of new buildings for the engineering school, containing offices, laboratories, workrooms, and classrooms, such buildings are to be constructed on Harvard University grounds and bear the name of Gordon McKay.

6. Faculty. The faculty of the school shall consist of the president of the university and of those professors, associate professors, assistant professors, and instructors appointed for more than one year, the greater part of whose work of instruction is done in the school, and of a limited number of other teachers of subjects offered in the school to be appointed in the usual way. The term of appointment of a teacher from any other institution who gives instruction in the school shall be for one year only; his title shall be lecturer, instructor, or assistant.

The faculty shall, under the direction of the corporation, have control of all instruction given in the school wherever the instruction may be given.

7. Degrees. A student satisfactorily fulfilling the requirements of a prescribed four-year program in any of the engineering fields shall be awarded the degree of bachelor of science in that field.

The degree of master of science, or an equivalent degree, shall be awarded upon the successful completion of at least one additional year of study. For the doctors' degree the requirements shall be similar to those in the graduate school of arts and sciences.

8. Credit for instruction elsewhere. As in the case of every faculty, the faculty of the engineering school may, in its discretion from time to time, allow credit toward the degree under its control for instruction received at another institution or by other instructors.

9. Courses in the school, or the services of its staff, may be made available to qualified students of other institutions.

10. This plan shall be submitted to the supreme judicial court of Massachusetts, or a justice thereof, for approval.

THE RHODES SCHOLARSHIPS.

Nearly one-half of the 400 American Rhodes scholars are now in military or Government service, including practically all of the men of recent years. Six, according to present reports, have lost their lives in the service. Since 1914 the regular operation of the scholarships has been seriously interfered with by the war, and before the United States entered the struggle a large number of the men had already engaged in relief work in Belgium or in duties connected with the Red Cross, the Y. M. C. A., and the ambulance services.

Since the entry of the United States into the war no more selections of American Rhodes scholars have been made. The appointments, however, are only postponed, and the vacancies will be filled when conditions are again normal. New plans for giving publicity for the scholarships and for making the selections are now being worked out. It seems probable that the result of the war will be to intensify the interest in the scholarships as one means for the unification of the Anglo-Saxon race. The German scholarships have been abolished by a special act of Parliament and the funds allotted to various British colonies. The University of Oxford has instituted the degree of Ph. D. and is preparing for extensive organization of graduate work.

In this connection a mission from the British universities which has just finished a tour of the United States is undertaking to arrive at agreements with American universities for mutual recognition of graduate work and for the exchange of students and professors. It is expected that many American officers may be able to spend some time in English universities during the period of demobilization and to that end special short courses have been established in most English institutions for the special benefit of these men. For example, all American students, whether Rhodes scholars or not, will be eligible to take degrees at Oxford under the new war regulations. These regulations provide that any man who has been in military service for at least a year can be admitted to the university without examination, excused from all intermediate examinations, and allowed to take his degree in two years, or even in one if he has had the necessary preparation.

It is perhaps too soon to speak of any large results of the Rhodes scholarships on American education. It may, however, be noted as significant that the system of honors, examinations, and of tutorial instruction has been rapidly gaining ground in American universities during the last half dozen years, and in most institutions where this is the case Rhodes scholars are engaged in administering the new plan.

In order to facilitate the new arrangements for the selection of Rhodes scholars in the United States and to provide a convenient source of information on this side of the ocean, the Rhodes trustees have recently appointed Prof. Frank Aydelotte, of the Massachusetts Institute of Technology, Cambridge, Mass., as American secretary for the scholarships.

THE CARNEGIE PENSION AND INSURANCE SCHEMES.

Early in 1916 President Pritchett, of the Carnegie Foundation, proposed a new plan which, it was hoped, would gradually supplant the pension system which has been administered by the Foundation for the past 10 years. The plan as described by the Dartmouth committee, which is included in the replies of the presidents and committees of the associated institutions concerning the proposal, in the eleventh annual report of the Carnegie Foundation, contemplates—

> The incorporation under the laws of New York of an insurance and annuity agency for the benefit of college teachers. Each teacher upon his entrance into service in the college would be required to take out with this insurance agency a minimum amount of term insurance to mature at the age of 65, and to purchase by annual contributions a minimum annuity which would begin upon retirement from teaching and at the expiration of the insurance. To make the annuity provision effective, a separate savings association is to be created which receives the annual contributions of the teachers and invests them, purchasing at the time of retirement with the accumulations an annuity from the insurance association. It is proposed that the college shall participate to the extent of 50 per cent of the cost of insurance and annuity up to an agreed minimum, or as an alternative that the college shall contribute only toward the purchase of the annuity. The individual is free to increase the amount of both insurance and annuity at will, and it is expected that he will increase his contributions as his salary increases. The details of the plan are not fully stated. It is clear, however, that agency expenses, a large factor in old line insurance, would be avoided.
>
> Administrative expenses and taxes are apparently to be borne by the Foundation, although at one point there is a suggestion that the administrative expenses may come from surplus if there is any. It is not definitely stated what disposition would be made of surplus, should the mortality experience prove to be more favorable than the tables upon which the rates will be based, but the inference is clear that such a condition will lead to the payment of dividends to the policyholders. The Foundation is to guarantee 4½ per cent interest on invested funds.
>
> One unique and distinctly favorable feature of the plan is that which provides for the return of accumulations toward an annuity in case of death, disability, or withdrawal before the annuity is available. Again, even after the annuitant has come into possession of his annual income, any balance of invested funds to his account are returned to his estate in case of death.
>
> In case of death of the annuitant, his widow will receive half of his annuity during her life. The disability privileges are to be made available at the end of 15 years as professor instead of 25 years under the present plan. After this period of service and in case of complete disability, the Foundation will, at its

own cost, pay the insurance premiums and a minimum pension of $1,200 a year during the period of disability.

The plan was not well received on its first submission to the associated institutions. It was, however, readily conceded that the Foundation would have to be relieved of some of its growing financial burdens. But the institutions which are beneficiaries of the Foundation expressed the opinion that:

> The privileges and expectations which have been created under the existing rules of the Carnegie Foundation constitute moral claims against the endowment on the part of such teachers and administrative officers now on the staff of associated institutions as under the present rules would receive retiring allowances and that adequate provision for scrupulously satisfying all these claims should be made before the fund is otherwise drawn upon.[1]

In view of the opposition to the plan, the matter was officially brought to the attention of a joint commission including six members of the board of trustees, two members of the American Association of University Professors, one member of the Association of American Universities, one member of the National Association of State Universities, and one member of the Association of American Colleges. After mature consideration the commission unanimously adopted the following resolutions:

> Voted: Referring to the resolution of the board of trustees of the Carnegie Foundation, adopted in November, 1915, that "whatever plan is finally adopted will be devised with scrupulous regard to the privileges and expectations which have been created under existing rules," this commission expresses the opinion that the extension to all teachers at present in the associated institutions of the privilege of continuing in the present system would completely meet all their reasonable expectations. The commission assumes that the trustees of the Carnegie Foundation will in due time announce a date after which the privileges and expectations of the present system will not be available to those newly entering upon the profession of teaching.
>
> Voted: That the trustees of the Carnegie Foundation be requested to give all possible consideration to the needs of the older teachers in institutions which are not yet, but may be later, associated with the Foundation.
>
> Voted: The commission does not know the extent to which assistance can be obtained outside the present funds of the Foundation, but it is acting on the expectation of substantial assistance in carrying a large but limited load, and with the further understanding that adequate assistance can not be obtained to carry on the ever-increasing pension burden without calling upon institutions and individual teachers to bear a share.

In harmony with the last recommendation the commission recommended to the trustees of the Carnegie Foundation a plan of insurance and annuities. The purpose of this new organization is—

> to set up the machinery under which the teacher may protect himself and his family from dependence, whether by his own death or by old age or by disability; to furnish to the teacher the security of a contract, so that the man who enters upon the accumulation of an annuity at 30 may have a

[1] Eleventh Annual Report of Carnegie Foundation.

contract for its fulfillment at the agreed age; to afford these forms of protection in such manner as to leave to the teacher the utmost freedom of action and to make his migration from one institution to another easy. Finally, whatever machinery is set up to accomplish these purposes should be operated at a cost within the reasonable ability of the teacher to pay.

The proposed charter embodying these purposes is under the title of the Teachers' Insurance and Annuity Association of America. The incorporators who subscribed their names February 1, 1918, are as follows: Elihu Root, Nicholas Murray Butler, Arthur Twining Hadley, Jacob Gould Schurman, Alex. C. Humphreys, Charles P. Stone, John Bassett Moore, Robert Weeks de Forest, George Woodward Wickersham, Newcomb Carlton, Edward Robinson, George Foster Peabody, and Henry S. Pritchett.

ACADEMIC FREEDOM OF SPEECH.

Up to the year 1917-18 the problem of academic freedom of speech involved chiefly the expression of opinions on social and economic questions. With the coming of the war the danger zone shifted. It is natural in times of great national tension like the present that the personal views of thinking men should be expressed with greater vigor or passion than usual. Differences of opinion on questions of national or international policy, ventilated with heat on both sides, easily lead to the impugnment of motives and even to the damning charge of disloyalty. As a result of this surcharged condition of the intellectual atmosphere, many doubtless well-meaning individuals have suffered the extreme academic penalty for utterances which under ordinary circumstances would be passed by with scant notice or criticism. There has developed, therefore, a special problem of academic freedom of speech in war time.

LEADING OPINIONS ON THE PROBLEMS OF ACADEMIC FREEDOM OF SPEECH.

One of the discussions on this subject appeared in the joint report of the Columbia University committee on education and the special committee on the state of teaching. It is of particular interest as embodying an expression of the policy of the board of trustees:

> In the whole history of the university, dismissals from the university of a member of the teaching staff have been but six in number; and the record shows that in all of these cases but one the judgment and opinion of representative members of the teaching staff were before the trustees as an important element in affecting their action. In the one exceptional case the reasons for action had no reference to the academic work or relations of the person concerned.
>
> The power of removal has been exercised by the trustees only in these very rare instances, and then only after full investigation and (save in the one case above mentioned) consultation with members of the faculties. In each case

there had been a state of facts which in the judgment of the trustees rendered such action imperative.

In view of these facts there can be no ground for apprehension on the part of anyone that the charter powers of the trustees will be arbitrarily exercised.

In the whole history of Columbia University there is no instance where the trustees have ever subjected any teacher to restraint or discipline by reason of his classroom teaching. The trustees have more than once been urged by other members of the university, by alumni, by parents of students, and by the public press, to take action of this character, but they have never done so. Yet ultimate decision as to whether the influence of a given teacher is injurious to private morals or dangerous to public order and security is one which the trustees may neither shirk nor share nor delegate. We fully concur in the opinion expressed by the president in his annual report for 1910 that academic freedom imposes academic responsibility, and that there are distinct limitations upon academic freedom which should be self-imposed, namely, "the limitations imposed by common morality, common sense, common loyalty, and a decent respect for the opinions of mankind."

In the 1916–17 annual report of the president of Columbia University a more complete statement is made concerning the questions of academic freedom and tenure, the following quotations from which are herewith appended:

It would be little short of a calamity were it not possible for an academic teacher to change his place of occupation without thereby reflecting upon the intelligence or the integrity of those with whom he had been associated, and similarly, if it became impossible for the governing board of a school system or of a school or college to substitute one teacher for another without bringing charges against the person displaced. Any contrary theory assumes a preestablished harmony of which not even Leibnitz dreamed and a preestablished competence which would render it impossible for anyone to be appointed to a teaching position who was not ipso facto entitled to steady promotion and increase in compensation and to a lifelong tenure. * * * Security of tenure is desirable, but competence and loyalty are more desirable still, and a secure tenure purchased at the price of incompetence and disloyalty must sound a deathknell to every educational system or institution where it prevails. These are all matters of grave importance in the government of an educational system or an educational institution. They can not be dismissed with phrases or formulas, but must be met and decided in accordance with sound principle and the public interest.

There is no real reason to fear that academic freedom * * * is or ever has been in the slightest danger in the United States. Evidence to the contrary is quite too manifold and too abundant. What is constantly in danger, however, is a just sense of academic obligation. When a teacher accepts an invitation to become a member of an academic society, he thereupon loses some of the freedom that he formerly possessed. He remains, as before, subject to the restrictions and the punishments of the law; but in addition he has voluntarily accepted the restrictions put upon him by the traditions, the organization, and the purposes of the institution with which he has become associated. Try as he may, he can no longer write or speak in his own name alone. Were he to succeed in so doing, what he might write or say would have, in nine cases out of ten, no significance and no hearing. What he writes or says gains significance and a hearing because of the prestige of the academic society to which he

belongs. To that prestige, with all that that word means, the academic teacher owes a distinct, a constant, and a compelling obligation. To maintain one's connection with an academic society while at war with its purposes or disloyal to its traditions and organization is neither wise nor just. No one is compelled to remain in an academic association which he dislikes or which makes him uncomfortable. What the ancient Stoic said of life itself is true of a university: "The door is always open to anyone who has an excuse of leaving."

On the other hand, academic obligation is reciprocal. The academic society of which the individual teacher is a member owes him encouragement, compensation as generous as its resources will afford, and protection from unfair attack and criticism, as well as from all avoidable hamperings and embarrassments in the prosecution of his intellectual work. Each individual member of an academic society is in some degree a keeper of that society's conscience and reputation. As such, the society as a whole must give him support, assistance, and opportunity.

The same type of mind which insists that it knows no country but humanity, and that one should aim to be a citizen of no State but only of the world, indulges itself in the fiction that one may be disloyal to the academic society which he has voluntarily joined, in order to show devotion to something that he conceives to be higher and of greater value. Both contentions affront common sense and are the result of that muddled thinking which to-day is bold enough to misuse the noble name of philosophy. One effect of much recent teaching of what once was ethics is to weaken all sense of obligation of every kind except to one's own appetites and desire for instant advantage. That economic determinism which is confuted every time a human heart beats in sympathy and which all history throws to the winds has in recent years obtained much influence among those who, for lack of a more accurate term, call themselves intellectuals. These are for the most part men who know so many things which are not so that they make ignorance appear to be not only interesting but positively important. They abound just now in the lower and more salable forms of literary production, and they are not without representation in academic societies.

The time has not yet come, however, when rational persons can contemplate with satisfaction the rule of the literary and academic Bolsheviki or permit them to seize responsibility for the intellectual life of the Nation.

Neglect of one's academic obligation, or carelessness regarding it, gives rise to difficult problems. Men of mature years who have achieved reputation enough to be invited to occupy a post of responsibility in a university ought not to have to be reminded that there is such a thing as academic obligation and that they fall short in it. It is humiliating and painful to find, with increasing frequency and in different parts of the country, men in distinguished academic posts, who choose to act in utter disregard of the plainest dictates of ethics and good conduct. It is fortune indeed that, however conspicuous are instances of this disregard, they are in reality negligible in number when compared with the vast body of loyal, devoted, and scholarly American academic teachers. It is noticeable, too, that instances of this lack of sense of obligation rarely arise, if ever, in the case of those men whose intellectual occupations bring them in contact with real things. It is only when a man is concerned chiefly with opinions and views, and those opinions and views of his own making, that he finds and yields to the temptation to make his academic association the football of his own ambitions or emotions.

The opinion of the committee on academic freedom and academic tenure, of the American Association of University Professors, is as follows:[1]

It is a grave abuse of the power of dismissal when it is used to deny to members of the university faculties the enjoyment of their fundamental constitutional rights as citizens; and an institution in which dismissal is possible upon such a ground as was officially put forward in this case is one in which adequate guaranties of academic freedom are manifestly lacking. It is in some respects a still graver abuse of power when administrative officers or governing boards attempt by their official declarations publicly to attach the stigma of treasonable or seditious conduct to an individual teacher because of acts of his which are in fact neither treasonable nor seditious.

When charges are brought against a member of a college or university faculty upon any ground, the proceedings should, as a matter of course, be strictly judicial in character, and should be in accord with the principle of faculty responsibility. In other words, the person accused should be entitled to have the charges against him stated in writing in specific terms, and to have a fair trial on those charges before either the judicial committee of the faculty or a joint committee composed of an equal number of professors and trustees, which should render definite finding, stating in case of a decision adverse to the accused the precise acts on which the decision is based. The importance of maintaining these procedural safeguards against hasty or unjust action is, if possible, even greater at a time of popular excitement and heightened passions than under normal conditions.

One of the most helpful statements made this year bearing on the question of academic freedom is that found in President Lowell's annual report for 1916–17. The following quotations are of special interest:

The war has brought to the front in academic life many questions which are new, or present themselves to many people in a new light. One of these is liberty of speech on the part of the professor; and it seems a not unfitting time to analyse the principles involved, and seek to discover their limitations. In so doing I shall deal only with higher education, that is with universities and colleges.

Experience has proved, and probably no one would now deny, that knowledge can advance, or at least can advance rapidly, only by means of an unfettered search for truth on the part of those who devote their lives to seeking it in their respective fields, and by complete freedom in imparting to their pupils the truth that they have found.

The teaching by the professor in his classroom on the subjects within the scope of his chair ought to be absolutely free. He must teach the truth as he has found it and sees it. This is the primary condition of academic freedom, and any violation of it endangers intellectual progress. In order to make it secure it is essential that the teaching in the classroom should be confidential. This does not mean that it is secret, but that what is said there should not be published. If the remarks of the instructor were repeated by the pupils in the public press he would be subjected to constant criticism by people not familiar with the subject, who misunderstood his teaching; and, what is more important, he would certainly be misquoted, because his remarks would be reported by the student without their context or the qualifications that give

[1] See Bulletin of American Association of University Professors, April, 1918.

them their accuracy. Moreover, if the rule that remarks in the classroom shall not be reported for publication elsewhere is to be maintained, the professor himself must not report them. Lectures open to the public stand on a different footing, but lectures in a private classroom must not be given by the instructor to the newspapers. That principle is, I believe, observed in all reputable institutions. * * *

Every professor must, therefore, be wholly unrestrained in publishing the results of his study in the field of his professorship. It is needless to add that for the dignity of his profession, for the maintenance of its privileges, as well as for his own reputation among his fellows, whatever he writes or says on his own subject should be uttered as a scholar, in a scholarly tone and form. This is a matter of decorum, not of discipline; to be remedied by a suggestion, not by a penalty.

In troublous times much more serious difficulty and much more confusion of thought arises from the other half of our subject, the right of a professor to express his views without restraint on matters lying outside the sphere of his professorship. This is not a question of academic freedom in its true sense, but of the personal liberty of the citizen. It has nothing to do with liberty of research and instruction in the subject for which the professor occupies the chair that makes him a member of the university. * * *

The university or college is under certain obligations to its students. It compels them to attend courses of instruction, and on their side they have a right not to be compelled to listen to remarks offensive or injurious to them on subjects of which the instructor is not a master, a right which the teacher is bound to respect.

In spite, however, of the risk of injury to the institution, the objections to restraint upon what professors may say as citizens seem to be far greater than the harm done by leaving them free. In the first place, to impose upon the teacher in a university restrictions to which members of other professions, lawyers, physicians, engineers, and so forth, are not subjected, would produce a sense of irritation and humiliation.

In accepting a chair under such conditions a man would surrender a part of his liberty; what he might say would be submitted to the censorship of a board of trustees, and he would not be a free citizen. The lawyer, physician, or engineer may express his views as he likes on the subject of the protective tariff; shall the professor of astronomy not be free to do the same? Such a policy would tend seriously to discourage some of the best men from taking up the scholar's life. It is not a question of academic freedom, but of personal liberty from constraint; yet it touches the dignity of the academic career.

It should be noted in passing that a number of American institutions have been obliged to take action on the unpatriotic activities and utterances of teachers of German origin or avowed German sympathies. The dismissals resulting in these cases have nowhere been regarded as breaches of academic freedom.

THE WORK OF THE COMMITTEE ON ACADEMIC FREEDOM AND ACADEMIC TENURE OF THE AMERICAN ASSOCIATION OF UNIVERSITY PROFESSORS.

During the past two years the committee on academic freedom and academic tenure of the American Association of University Professors has had brought to its attention over 30 cases of alleged infraction of the principles of academic freedom of speech and academic

tenure. The opinions and decisions of this committee and its subcommittees, some of which have been quoted in former reports of the Commissioner of Education, have grown in weight and importance in the academic world. The committee, by its conservative attitude, has been able to eliminate from public discussion and criticism a large proportion of the cases brought to its doors, and it has also been able to help in the solution of many problems by dealing privately with the institutions and individuals concerned.

The committee has centered its attention on a limited number of cases which led to the exposition of principles underlying academic freedom of speech and permanency of academic tenure. It has in no sense sought publicity. The rulings of the committee have been largely based on the principles stated in the 1915 report of the association. Taken together, the decisions of the committee, already covering a large variety of cases, lay the foundation of a new type of educational law which should prove to be of great value in solving equitably the complex problems of academic freedom of speech and academic tenure.

During the period under review two reports involving questions of academic tenure not relating to freedom of speech have been made by committees of the American Association of University Professors. The first of these was an investigation into the reasons for the dismissal of Miss Winona A. Hughes, dean of women at the College of Wooster, and the methods used by the board of trustees in severing her connection with the college. The committee found the action of the president and the board to be arbitrary, unjustifiable, and such as to jeopardize seriously the standing of the college among American higher institutions. It declared that "the methods of the present administration have not been such as to appeal to the loyalty of a conscientious and self-respecting faculty, and it is equally obvious that they are not the methods which gain for a college the confidence and respect of the academic world."

On June 7, 1917, the State board of education of the State of Montana decided not to retain as president of the State university Dr. E. B. Craighead, who had acted in that capacity for three years. The State board also decided not to reemploy three professors of the university. The matter having been brought before the committee on academic freedom and academic tenure, it was the opinion of the committee after careful investigation that the dismissal of President Craighead and the three professors was not justified. The procedure of the board was criticized by the committee as being unsound in method and disastrous in its results to the interests of the university. (See Bulletin of the American Association of University Professors, May, 1917.)

TWO STATE INSTITUTIONS ATTACKED.

THE MASSACHUSETTS AGRICULTURAL COLLEGE.

During October, 1916, the Massachusetts Agricultural College was criticized at a public hearing held by a commission appointed by the governor of the State to investigate the institution and to see whether its present policies should be continued. The college was charged with inefficiency because it did not turn out more practical farmers, and because it devoted more time than necessary to classical and humanistic studies, while neglecting the practical phases of farm life.

In answer to these objections President Butterfield and his supporters informed the commission that 65 per cent of the college graduates for the past 50 years were engaged in agricultural pursuits, the percentage having increased considerably during the past 10 years. About 80 per cent of the recent graduates are in agricultural vocations. The agricultural college aims to give a broad grasp of farm problems, combined with sufficient practical training. As to the relation between the humanistic and the agricultural subjects, the practice of the college is well stated in the published report of the commission, as follows:

> The land-grant colleges were primarily established to promote the study of agriculture by the most advanced and scientific methods of instruction. In their courses of study one naturally expects that science will occupy the most prominent place, and that it should be taught by men well qualified for their work. The Massachusetts Agricultural College meets this expectation.
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> There are at present 228 courses in agriculture and the cognate sciences, and only 96 courses in mathematics and the so-called humanities. In the first year 48 courses are given in agriculture and mathematics, and only 18 in the humanities. In the second year 6 courses are required in the humanities, and 54 in agriculture and cognate sciences. After the second year a major course can be elected in one of the 17 departments; during the last year 75 per cent of the students elected major courses in agriculture and horticulture. There is no major course in the humanities, and only one-quarter of the students' time is required in these studies. Three-quarters of the students are giving three-fourths of their time to distinctively agricultural subjects. Ten times as many courses are given in junior and senior years in agriculture as were given 10 years ago, and more agricultural studies have been introduced in the first and second years than ever before.
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> There has been no corresponding increase in humanistic studies. Of the faculty, 54 teachers are engaged in instruction in agriculture and the cognate sciences, and 14 teachers in the humanities and mathematics. Members of the faculty and representative students alike testify that there is a prevailing tendency among the undergraduates to elect studies according to their supposed commercial values and to neglect those studies which aim to strengthen and cultivate the mind. While there is a fair showing of humanistic electives in the curriculum, most of them are not required, as they are in the Massachusetts Institute of Technology and in other colleges, and only a few of

the students elect them. Not only is there to be considered the number of courses, but account must be made of the order in which the courses are offered. The commission recommends that the college authorities consider readjustment of the courses so as to give larger place to practical work in the first two years; also certain courses, as, for example, that in rural journalism, might be carefully scrutinized to see whether they are really desirable and essential offerings of the college.

While the State in its acceptance of the provisions of the Morrill Act is bound to give special instruction in agriculture, it is no less bound by the language of the act to give a liberal education as an integral part of its distinctive work, and not to neglect or relegate to subordinate places those studies which experience has shown are best fitted to nourish and strengthen the faculties of the mind and which will enable men to do better work, whatever that work may be.

The college has been severely criticized because no larger proportion of its graduates become practical farmers, owing it is said to the lack of practical instruction which they receive. An examination of the curriculum shows that this criticism is no longer merited. Practical farm work is now given during the first two years, and is required of every student. Of the total hours assigned to instruction in the division of agriculture and horticulture, 32 per cent are given to classroom work, and 68 per cent to laboratory and field work. The field work should be considered as indispensable as is laboratory work in any science, so that students may apply practically the instruction which they receive theoretically. A summer session has also been recently introduced whereby such work can be carried on more readily. The lack of practical farmers, therefore, among the graduates does not appear to be due to a lack of practical work in agricultural instruction, and can be more readily explained from other causes.

Practical farmers the college does educate. They are found in all parts of the State, and are conducting farms which are profitable to themselves, and are profitable as object lessons.

ATTACK ON THE STATE UNIVERSITY OF TEXAS BY GOV. FERGUSON.

During the early part of the summer of 1917, a serious controversy arose between Gov. Ferguson, of Texas, and President Vinson, of the State university. The cause of the trouble was due largely to President Vinson's refusal to dismiss certain college teachers to whom the governor objected. The latter, by way of retaliation, vetoed the appropriation for the State university, and consequently aroused a great storm of protest from all parts of the State. Inasmuch as the governor had acted unlawfully in the matter, and seriously threatened the financial resources of the university, the legislature in special session passed the necessary appropriation bill for the support of the university.

In August the governor was impeached and removed from office. The articles of impeachment included counts for alleged misappropriation of funds and the abuse of authority in his dealings with the regents and the president of the university.

SPECIAL LEGISLATION TOUCHING HIGHER EDUCATION.

THE SMITH-HUGHES ACT.

By the enactment of the Smith-Hughes law, a large fund has been made available for the training of teachers in industrial and agricultural subjects. This fund, which is administered by the Federal Board for Vocational Education, amounts to $546,000 for 1917–18 and increases yearly to a maximum of $1,090,000 for the year of 1920–21, the latter sum being the annual appropriation thereafter.

The maximum amount of the teacher-training fund to be used in any fiscal year in any one of the three following lines—trades and industries, home economics, and agriculture—is 60 per cent of the total amount allotted to the State for that year for teacher training.

The training of these teachers will be directly under the State board for vocational education, subject to certain Federal regulations. In order to qualify for this special type of training, the teacher-candidate should be a graduate of a four-year high-school. Vocational experience is also required.

THE NEWLANDS BILL.

During the year 1916, Senator Newlands introduced a bill authorizing the appropriation of Federal funds for the establishment of engineering experiment stations in the different States. The bill provides that these stations are to be placed under a board of control, consisting of the Secretaries of the Interior, Commerce, and Agriculture. The approval of the governor of the State is necessary before an experiment station can be established in any State.

Although the bill did not obtain a vote, it has more than usual significance. It contemplates the subsidization of engineering research by a plan similar to that by which agricultural research is now subsidized in the agricultural experiment stations. The bill, furthermore, has the indorsement of the National Association of the State Universities and of other important educational bodies interested in engineering research.

AMERICANIZATION.

The new and important Americanization movement has necessitated the training of teachers to look after the large number of immigrants that annually come to our shores.

During the past year the New York Legislature has appropriated $20,000 to provide for the training of teachers of adult immigrants, training courses being given during the summer of 1917, in Albany, Buffalo, New York, Rochester, Syracuse, and Nassau County, L. I. At present there are 14 universities and colleges conducting teacher

training classes for teachers of immigrants. These institutions are as follows: University of California; State Normal School, Los Angeles; University of Colorado; State Normal School, Danbury, Conn.; State Teachers' College, Greeley, Colo.; State Normal School, Hyannis, Mass.; American University, Springfield, Mass.; Columbia University and Teachers' College, New York; State College for Teachers, Albany, N. Y.; State Normal School, Buffalo, N. Y.; Syracuse University, Syracuse, N. Y.; University of Pittsburgh; University of Wyoming; University of Wisconsin.

Teacher training classes are also being conducted by various boards of Education, as in Hoboken, N. J., Detroit, Mich., Rochester, N. Y., Cincinnati, Cleveland, and Philadelphia.

PART II. THE COLLEGES AND THE WAR.

Universities and colleges have been temporarily transformed by the war. It is still too early to say whether any of the changes wrought will be permanent. Certain principles and methods, however, have been developed by the war experience which apparently commend themselves to large numbers of university and college officers. These are treated in some detail at the end of this chapter.

The contributions of the higher institutions to the war are definite and easily recorded. They are also noteworthy. Indeed, it is probable that no other class or group in the population of the United States contributed so large a proportion of its membership to the fighting forces of the country or participated so directly in the leadership of noncombatant war activities. It has often been remarked that the intellectual classes were responsible for the United States joining the Allies. The extent to which public opinion was molded by college officers and college students before the declaration of war is of course difficult to ascertain. It is beyond question, however, that the influence of collegiate communities upon public thought was very great. In spite of the consistent attempts of college officers to foster an open mind and to offer a free forum for discussion of the issues involved during the first three years of the World War, the trend of sentiment in college communities was from the beginning strongly in favor of the allied cause. Many presidents and professors also constituted themselves the spokesmen of this cause before the country. Reflections of the strength of student sentiment are to be found in the overwhelming support given to allied charities by collegiate communities. When the declaration of war came, it found the college world mentally prepared and eager to take its part in what it regarded as a great moral crusade.

PROBLEMS RAISED BY THE WAR.

It has been stated that the officers of higher institutions furnished a large part of the intellectual leadership in the actual conduct of the war. This leadership began to make itself felt at once. The colleges perceived at the outset the problems which they as institutions would have to meet. They perceived these problems in relation to the war enterprise as a whole. In fact, university and college officers seem to have been the only considerable group of individuals who did see in the beginning what were the fundamental human elements in preparation for war and in the successful prosecution of the war. Others, to be sure, grasped the need for deploying the Nation's material strength. The colleges saw first that this would be ineffective unless backed by the complete mobilization of the Nation's resources in knowledge and skill and intention. The colleges iterated and reiterated these truths until appropriate national policies were adopted. And the adoption came regrettably late. Both the successes and the failures of America's war experience demonstrate that the colleges were right.

War is an exceedingly practical business. Many have been surprised that college men, reputed to be a cloistered and unpractical lot, were able to lead in anything so concrete and matter-of-fact. But is it surprising? Besides being a practical business, war is also perennially a new business. Fighting is old, but every war is more modern than its age. The latest devices of science and invention are put to work. Under the tremendous mental tension of war, new devices are produced at a rate unknown in peace. It is the business of university and college instructors to follow the progress of the world in every field of intellectual endeavor. The open mind, adaptability to new conditions, are what they aim to produce in their students also. The double aspect of the present war has often been noted. On the one hand, it has been a war of science, of engineering, of medicine, of agriculture, of transportation; on the other hand, it has been a great moral struggle, in which two divergent concepts of human relationships have collided. University staffs contain men who are expert in each of the fields of science, and men also whose task it is to interpret the ethical aspects of every social movement. That these men should have read both the material and spiritual lessons developed in the three years of war in Europe, and should have sensed their import for the United States in 1917, is not to be wondered at. It would, in fact, have been surprising if they had not. At any rate they were more ready than any other group with suggestions for the practical solution of the difficulties which confronted the Government in April, 1917.

What were the concrete problems in which colleges and universities were primarily concerned and toward the solution of which they contributed? These were of a threefold nature. They related (*a*) to training and the proper organization of training agencies, (*b*) to the mobilization of science, and (*c*) to the development of public morale. These problems merged into one another to some extent. A consistent classification is not always possible. For the sake of convenience, however, the grouping that has been suggested will be used in the following discussion.

TRAINING AND THE EFFECTIVE ORGANIZATION OF TRAINING AGENCIES FOR NATIONAL SERVICE.

The declaration of war by the United States was not unforeseen in the university world. Several institutions immediately on the rupture of diplomatic relations made plans to meet the emergency which was certain to arise. Two especially noteworthy acts may be mentioned.

Columbia University developed a plan of registration and mobilization which would make possible the participation of any member or group of the faculty, alumni, or student body in the national service, with a minimum of delay. The very effective registration blanks devised by the university for this purpose were circulated with comment by the Bureau of Education among all the colleges. Many institutions adopted similar forms and organized in a similar way for service.

Harvard University, which had been conducting intensive military training for a number of months, approached the French Government for the assignment of invalided French officers to take charge of the instruction of the Harvard regiment. The preliminary negotiations were completed during February and March, 1917, and the officers arrived on the heels of the declaration of war.

With the actual declaration of war the exodus of students, chiefly from the upper classes, to enter the service as volunteers began. At the same time the presidents and boards of trustees of many institutions addressed the President, and Secretary of War, or the Commissioner of Education, offering the services of their plants and equipment to the Government. Back of these formal offers was a profound conviction that higher institutions had a uniquely valuable contribution to make, both as centers of training and as focal points for scientific experimentation. Presidents and faculties viewed the daily increasing enlistments of upper-class men with mixed feelings. On the one hand they were glad and proud of the response of the student bodies; on the other, they realized that if the scientific and technical training agencies were broken up and the supply of trained men diminished, the consequences would be very serious in the event

of a long war. It early became clear that, without checking the patriotic impulses of students, steps must be taken to retain a considerable percentage in college.

The colleges naturally looked for central direction. The conduct of the war was the business of the Government. The Government should say what colleges were expected to do. For a number of weeks no governmental direction was forthcoming. The Government's educational activities are distributed among some 20 separate departments and bureaus, no one of which was in a position to speak authoritatively to the institutions on a matter involving the military and economic policy of the Nation.

UNIVERSITY COMMITTEE OF THE ADVISORY COMMISSION OF THE COUNCIL OF NATIONAL DEFENSE.

In the autumn of 1916 Congress had created the Council of National Defense. The council consists of the Secretaries of War, Navy, Interior, Agriculture, Commerce, and Labor. Associated with it is an advisory commission composed of seven civilians expert in the fields of transportation, munitions, supplies, raw materials, engineering, labor, and medicine. The function of the council is to investigate the resources of the country with a view to their utilization in the event of war. The members of the advisory commission associated with themselves committees of experts to assist in these investigations and in the formulation of policies to be recommended to the executive departments and to Congress. The council is therefore designed in part as a coordinating agency to relate the activities of the executive departments concerned in national defense and to bring to bear civilian opinion upon the problems of the Government. Education was not originally included in the sphere of the council's activities. Shortly after the declaration of war, however, the Commissioner for Engineering of the advisory commission was charged with the task of investigating and reporting upon educational problems related to the war.

The Commissioner for Engineering and Education therefore immediately appointed the nucleus of a committee on educational problems and called a meeting of representatives of the principal associations of colleges and universities, to formulate a comprehensive policy for cooperation between the higher institutions and the Government. The conference was held at Washington May 5. It was attended by the official representatives of the National Association of State Universities, the Association of American Agricultural Colleges and Experiment Stations, the Association of American Universities, the Association of American Colleges, the Society for the Promotion of Engineering Education, and by officers of 187 higher institutions. The following preamble and statement of principles

were adopted by the meeting. They indicate very clearly both the exalted spirit of service which animated the universities and colleges and the accuracy of their forecast of the educational needs of the country during the war.

PREAMBLE.

In the supreme crisis that confronts the Nation the colleges and universities of America have the single-minded thought and desire to summon to the country's service every resource at their command, to offer to the Nation their full strength without reservation, and to consecrate their every power to the high task of securing for all mankind those ideas and ideals that gave them birth and out of which have grown their most precious traditions.

In order that such service may be most intelligently developed and applied, the following declaration of principles is respectfully suggested.

STATEMENT OF PRINCIPLES.

It is our judgment that our colleges and universities should so organize their work that in all directions they may be of the greatest possible usefulness to the country in its present crisis.

We therefore believe, first, that all young men below the age of liability to the selective draft[1] and those not recommended for special service, who can avail themselves of the opportunities offered by our colleges, should be urged so to do in order that they may be able to render the most effective service, both during the full period of the war and in the trying times which will follow its close.

We believe, second, that all colleges and universities should so modify their calendars and curricula as will most fully subserve the present needs of the Nation and utilize most profitably the time of the students and the institutional plant, force, and equipment. With this end in view, we suggest that, as an emergency measure, the colleges consider the advisability of dividing the college year into four quarters of approximately 12 weeks each, and that, where necessary, courses be repeated at least once a year so that the college course may be best adapted to the needs of food production.

We believe, third, that in view of the supreme importance of applied science in the present war, students pursuing technical courses, such as medicine, agriculture, and engineering are rendering, or are to render, through the continuance of their training, services more valuable and efficient than if they were to enroll in military or naval service at once.

We believe, fourth, that the Government should provide or encourage military training for all young men in college by retired officers of the Army and National Guard or by other persons competent to give military instruction, and that the colleges should include as a part of their course of study teaching in military science, in accordance with the provisions of the national defense act of June, 1916.

We believe, fifth, that the Bureau of Education of the Department of the Interior and the States Relations Service of the Department of Agriculture, with the cooperation of the committee on science, engineering, and education of the advisory commission of the Council of National Defense, should be the medium of communication between the Federal departments and the higher educational institutions of the country.

[1] It will be recalled that the Selective Service Act was passed almost simultaneously with this meeting of May 5.

Finally, we believe that an educational responsibility rests on the institutions of higher learning to disseminate correct information concerning the issues involved in the war and to interpret its meaning.

The meeting was addressed by the Secretary of War. In the course of his remarks he made the following significant statements:

I think this, though, is more or less clear to those of us who look at it from the outside: First, that the country needs officers. There is no preference of college men for officers, but because a man has had academic opportunities he has to start with, presumptively at least, a better foundation upon which to build the learning which an officer must have; and therefore to a very substantial extent the country desires its college graduates and its college-bred men of suitable age in the training camps in order that they may be rapidly matured into officers and used in the training of the new forces.

To the extent that the men in college are physically disqualified, or to the extent that they are too young to meet the requirements of the department, it seems quite clear that in the present state of the emergency their major usefulness lies in remaining in the college, going forward with their academic work; and the colleges can, I think, lend some color of patriotic endeavor to their so doing by such simple modifications of their courses and curricula as will show the boys who stay that they are being directly equipped for subsequent usefulness if the emergency lasts until their call comes.

The meeting left behind it a permanent committee attached to the advisory commission of the Council of National Defense. The personnel of this committee follows:

Hollis Godfrey, Sc. D., member of the advisory commission of the Council of National Defense, president, Drexel Institute, chairman.
Henry E. Crampton, Ph. D., professor, Columbia University, vice chairman.
Frederick C. Ferry, Ph. D., dean, Williams College, secretary.
Samuel P. Capen, Ph. D., specialist in higher education in the United States Bureau of Education, executive secretary.
Edwin A. Alderman, LL. D., president, University of Virginia.
Guy Potter Benton, LL. D., president, University of Vermont.
Kenyon L. Butterfield, LL. D., president, Massachusetts Agricultural College.
Augustus S. Downing, LL. D., assistant commissioner for higher education, University of the State of New York.
Wilson Farrand, M. A., headmaster, Newark Academy.
Guy S. Ford, Ph. D., director of the division on Civic and educational cooperation of the Committee on Public Information.
Frank J. Goodnow, LL. D., president, Johns Hopkins University.
Edward K. Graham, LL. D., president, University of North Carolina.
Charles S. Howe, Ph. D., president, Case School of Applied Science.
Harry Pratt Judson, LL. D., President, University of Chicago.
A. Lawrence Lowell, LL. D., president, Harvard University.
Frank L. McVey, LL. D., president, State University of North Dakota.
Alexander Meikeljohn, LL. D., president, Amherst College.
Joseph A. Mulry, Pn. D., president, Fordham University.
John S. Nollen, LL. D., president, Lake Forest College.
Raymond A. Pearson, LL. D., president, Iowa State College of Agriculture and Mechanic Arts.
Winthrop E. Stone, LL. D., president, Purdue University.
Henry Suzzallo, Ph. D., president, University of Washington.

William O. Thompson, LL. D., president, Ohio State University.
Robert E. Vinson, LL. D., president, University of Texas.

With recognition of education by the Council of National Defense and the establishment of this committee, higher institutions believed that they had at last located the Government agency which was prepared to give them competent and authoritative direction. Their expectations were only in part fulfilled. The Council of National Defense is not an executive, but purely an advisory body. During the war, moreover, it was equipped with such small financial resources that its facilities even for educational investigation were limited. However, through the agency of the university committee and the committee on the relation of engineering schools to the Government, mentioned below, it was able to bring to the attention of the operating departments some of the major problems of the colleges and to assist in the development of an effective national policy for the utilization of these training facilities.

INDEPENDENT ACTION BY COLLEGES IN PREPARATION FOR WAR SERVICE.

MILITARY TRAINING.

The statement of principles just quoted received wide circulation among colleges and exercised a steadying effect. A large percentage of the institutions acted upon the advice contained in this statement. The one activity of foremost importance, as it seemed, in which college students could engage at once was military training. Almost without exception the colleges provided military training. In many cases a large amount of time was devoted to it each week, and academic credit given. Under the national-defense act of June 2, 1916, the establishment of units of the Reserve Officers' Training Corps in all colleges mustering 100 able-bodied male students for the purpose was authorized. Up to the outbreak of hostilities something less than a hundred units of the corps had been established. The great pressure upon the War Department for officers, rifles, and other equipment prevented the extension of the corps (except to the institutions that had already been promised units) during the war. As this was the only form of military training under Government supervision and receiving Government recognition, colleges which did not have the Reserve Officers' Training Corps were obliged to provide such training on their own responsibility. Retired officers of the Regular Army and National Guard were hired as instructors, as far as they were available. Some institutions secured invalided officers of the allied armies. Military training thus made great progress in the spring of 1917. By the opening of the fall term the provision of military training was recognized as the sine qua non of a college's existence.

The opinion of American college officers with respect to the desirability of the general introduction of military training was reinforced by the testimony of representatives of Canadian universities. The university committee of the Council of National Defense held a conference with representatives of Canadian universities on July 3 and 4, 1917. The following gentlemen represented the Canadian universities:

Sir Robert A. Falconer, president of the University of Toronto.
Dr. A. Stanley Mackenzie, president of Dalhousie University.
Dr. H. M. Tory, president of the University of Alberta.
Dr. Frank D. Adams, dean of the faculty of applied science, Magill University.
Capt. William H. Alexander, University of Alberta.

These gentlemen reported the establisment in Canada early in the war of officers' training corps in the universities, the training constituting a part of the regular university work for a period of two years. The training was limited to two years because few physically fit upper classmen remained in Canadian universities. Students in arts courses proved excellent candidates for commissions in the Army after having received this training. Officers' training corps units were parts of the militia of the Dominion of Canada. The instruction was regularly given by members of the teaching force of the universities, because it had been found in general that university teachers proved more effective instructors for university men than Army officers.

The results of this conference were reported both to the colleges and to the War Department. The War Department expressed its conviction of the soundness of the contention of college officers that students should be given regular military instruction under the auspices of the department, but regretted that the shortage of men and material prevented the adoption of this policy at once.

SPECIAL COURSES FOR REGULAR STUDENTS INTRODUCED AS A RESULT OF THE WAR.

Before the end of the academic year 1916–17 the majority of institutions had introduced a variety of special emergency courses. The great problem of conservation, especially the conservation of food, received attention not only in agricultural colleges but in colleges of arts and sciences, and especially in colleges for women. Nearly every college with women students offered Red Cross work or home nursing, or both. Engineering schools inaugurated courses in such military applications of engineering subjects as map making, military surveying, bridge building, telegraphy, radio operation, etc. Courses in spoken French and courses in economics, government, and history, designed to illuminate the background and causes of the war, were introduced in a number of institutions.

NEW SCHOOLS AND COURSES.

As early as the spring of 1917 the various branches of the military departments began to recognize the contributions to training for special service which could be made by the organized civilian institutions. The Signal Corps established eight aviation schools in connection with universities. The Quartermaster's and Ordnance Departments contracted with colleges for the provision of storekeepers' courses. The Navy trained ensigns and technical specialists at several large universities lying near the coast. Each of these types of training was managed by the branch of the service in which the candidates were to serve. As yet neither the Army nor the Navy was prepared to develop a comprehensive policy of cooperation with the colleges in the work of training.

CHANGES IN COLLEGE CALENDARS.

A considerable number of institutions adopted the suggestion made in the statement of principles quoted above and reiterated by the Secretary of War regarding the modification of college calendars. The four-quarter year had been debated in educational meetings for a long time. Few institutions had found themselves able to adopt it. The principal obstacle was a financial one, although there were others also. In the enthusiasm of the first months of the war a considerable number of institutions made this change and accepted the financial loss which it entailed as a part of their contribution to the national service.

STUDENTS AND THE DRAFT.

Reference has already been made to the serious military consequences involved in the withdrawal of a large percentage of students undergoing general and technical training before the completion of their courses. The experience of the allied countries in this regard pointed an unmistakable lesson. In the beginning of the war Great Britain and Canada allowed hundreds of scientific experts to go to the trenches as privates or officers of the line. Their higher institutions were decimated. Later, when imperative demand for the peculiar services of these technically trained men came, the men were no longer available. The supply ordinarily furnished by the higher institutions had also been temporarily cut off. Both Great Britain and Canada realized that their failure to use technical men in technical service and to keep a constant flow of scientifically trained students and men of advanced general education issuing from their institutions was a mistake. Military and industrial advisers from both countries warned the United States in the early days of our participation in the war not to repeat this error.

The activities of the medical section of the Council of National Defense were responsible for the protection of medical and dental

students from the draft by special legislation at the time of the passage of the selective-service law. But no similar measures were taken to defer the military service of students in other technical lines and in colleges of arts and sciences. The reason was evidently twofold. In the first place, few people realized that there was danger of serious shortage either of engineers or of arts-college graduates. In the second place, it was regarded as unwise public policy to protect from military service a class of persons which was enjoying already special advantages. The draft must appear absolutely democratic in its operation; otherwise it could not command the support and confidence of the entire country. College officers appreciated the cogency of this argument. They were reluctant to put themselves in a position of asking special favors. Particularly did they hesitate because their motives might seem open to suspicion, a shortage of students having a depressing effect upon the financial status of their institutions.

The draining of the trained and educated resources of the country came not alone from the operation of the draft. College and university students were among the first to volunteer. Until enlistments were entirely barred, colleges were the happy hunting grounds for recruiting officers of every branch of the military service. The sentiment grew that to wait for the draft was the mark of a slacker. College officers were therefore faced with an exceedingly difficult and delicate problem. It would have been disastrous for the morale of the institutions to discountenance volunteering. Without taking this step, the arguments in favor of delay and of a wise, long-distance patriotism were not very effective.

The way in which educational leaders and other public men went about solving the difficulty is of special interest. Indeed, one of the striking aspects of America's first year in the war is the long series of efforts to conserve the supply of men of higher training and to render the selective-service law truly selective in its operation. The history of these efforts is worth recording briefly.

The first public pronouncement appeared in the statement of principles adopted at the meeting of May 5, quoted above. This was followed by a circular issued May 22 by the Commissioner of Education, entitled "Suggestions for the conduct of educational institutions during the continuance of the war, to the end that their educational efficiency may not be lowered and that they may render the largest amount of service both for the present and for the future." In the section addressed to colleges, universities, and technical schools the commissioner made the following statement:

> All students should be made to understand that it is their duty to give to their country and to the world the best and fullest possible measure of service, and that both will need more than they will get of that high type of service

which only men and women of the best education and training can give. Patriotism and the desire to serve humanity may require of these young men and women the exercise of that very high type of self-restraint that will keep them to their tasks of preparation until the time comes when they can render service which can not be rendered by others.

On July 19 the Secretary of the Interior brought to the attention of the President the serious falling off in the number of students in higher institutions. The President replied on July 20, as follows:

MY DEAR MR. SECRETARY: The question which you have brought to my attention is of the very greatest moment. It would, as you suggest, seriously impair America's prospects of success in this war if the supply of highly trained men were unnecessarily diminished. There will be need for a larger number of persons expert in the various fields of applied science than ever before. Such persons will be needed both during the war and after its close. I therefore have no hesitation in urging colleges and technical schools to endeavor to maintain their courses as far as possible on the usual basis. There will be many young men from these institutions who will serve in the armed forces of the country. Those who fall below the age of selective conscription and who do not enlist may feel that by pursuing their courses with earnestness and diligence they also are preparing themselves for valuable service to the Nation. I would particularly urge upon the young people who are leaving our high schools that as many of them as can do so avail themselves this year of the opportunities offered by the colleges and technical schools, to the end that the country may not lack an adequate supply of trained men and women.

Cordially and sincerely, yours.

WOODROW WILSON.

In spite of this advice and similar counsel from many other influential persons all over the country, the exodus from higher institutions continued. The actual effect of the war on student enrollment at the beginning of the academic year 1917–18 is shown in the following tables compiled by the Bureau of Education from a questionnaire issued October 1, 1917:

Effect of the war on 313 colleges of liberal arts.

Classes.	Fall of 1916.	Fall of 1917.	Gain or loss.		Per cent.	
			Gain.	*Loss.*	*Gain.*	*Loss.*
Freshman class:						
Men	22,681	18,860	.....	3,671	.....	16.3
Women	17,442	17,556	114	.....	0.6	.....
Sophomore class:						
Men	14,613	12,505	.....	2,113	.....	14.4
Women	11,612	11,883	269	.....	2.3	.....
Junior class:						
Men	10,692	8,157	.....	2,535	.....	23.7
Women	8,961	9,011	130	.....	1.4	.....
Senior class:						
Men	8,718	6,149	.....	2,563	.....	29.4
Women	7,285	7,897	611	.....	8.4	.....
Special and graduate students:						
Men	4,043	2,419	.....	1,624	.....	40.1
Women	3,273	2,919	.....	354	.....	10.8
Total men	60,596	48,090	.....	12,808	.....	20.6
Total women	48,573	49,345	772	.....	1.6	.....
Total students	109,171	97,435	.....	11,736	.....	10.8

Effect of the war on student enrollment in technical institutions.

Colleges.	Number reporting.	Enrollment by sex.			Increase (+) or decrease (−).		Total enrollment.		Increase (+) or decrease (−).	
		Sex.	1916	1917	Number.	Per cent.	1916	1917	Number.	Per cent.
Colleges of agriculture	38	Men	11,799	7,680	−4,119	−34.9	11,799	7,680	−4,119	−34.9
Colleges and schools of engineering	94	Men	25,802	21,048	−4,754	−18.4	25,826	21,078	−4,748	−18.4
		Women	24	30	+ 6	+25.0				
Colleges and schools of mines	18	Men	1,584	1,175	− 409	−25.8	1,584	1,175	− 409	−25.8
Colleges and schools of education	36	Men	1,432	989	− 443	−30.9	10,478	9,507	− 971	− 9.3
		Women	5,350	5,166	− 184	− 3.4				
		Sex not reported	3,696	3,352						
Schools of medicine	42	Men	5,472	5,652	+ 180	+ 3.3	6,329	6,521	+ 192	+ 3.0
		Women	186	220	+ 34	+18.3				
		Sex not reported	671	649						
Colleges and schools of architecture	13	Men	1,176	824	− 352	−29.9	1,196	847	− 349	−20.8
		Women	20	23	+ 3	+15.0				
Schools of law	58	Men	8,342	4,994	−3,348	−40.1	9,757	5,703	−4,056	−41.5
		Women	131	160	+ 29	+22.1				
		Sex not reported	1,186	549						
Colleges of dentistry	15	Men	3,982	3,157	− 825	−20.8	4,102	3,264	− 838	−20.4
		Women	72	68	− 4	− 5.6				
		Sex not reported	48	39						
Colleges and schools of theology	25	Men	1,187	870	− 317	−26.7	1,547	1,137	− 410	−26.5
		Women	87	34	− 53	−60.9				
		Sex not reported	273	233						
Colleges of veterinary medicine	8	Men	525	348	− 177	−33.7	525	348	− 177	−33.7
Colleges of pharmacy	25	Men	1,270	982	− 288	−22.7	2,165	1,901	− 264	−12.2
		Women	117	172	+ 55	+47.0				
		Sex not reported	778	747						
Colleges of home economics [1]	26	Women	2,793	2,675	− 98	− 3.5	2,793	2,675	− 93	− 3.5
Schools of commerce or business administration	27	Men	4,080	3,458	− 622	−15.2	5,019	4,469	− 550	−10.9
		Women	420	581	+ 161	+38.3				
		Sex not reported	519	430						
Colleges and schools of journalism	6	Men	342	177	− 165	−48.3	420	277	− 143	−34.0
		Women	78	98	+ 20	+25.7				
Colleges of forestry	6	Men	484	236	− 248	−51.2	484	236	− 248	−51.2

[1] Including women in colleges of agriculture.

Other figures compiled by the Bureau of Education during the summer of 1917 with regard to the total available supply of engineers and engineering students, revealed a particularly serious situation with respect to this group of persons. It became evident that the only hope of a satisfactory solution of the difficulty lay in action by the War Department, giving a special military status to engineering students. The university committee of the Council of National Defense, therefore, brought the facts in its possession to the attention of the following bodies: The Association of American Universities, the Association of American Agricultural Colleges and Experiment Stations, the National Research Council, the Society for the Promotion of Engineering Education, the Council of the American Society of Civil Engineers, the Council of the American Society of Mechanical Engineers, and the Council of the United Engineering Societies. Most of these agencies memorialized the Secretary of War, urging in effect that engineering students be placed upon the same military status as students in medicine.

On December 8 the Secretary of War authorized the issuance of regulations which permitted students in schools of engineering to finish their courses before being called upon for active military service. This ruling was embodied in the Revised Selective Service Regulations and read as follows:

> Under such regulations as the Chief of Engineers may prescribe, a proportion of the students pursuing an engineering course in one of the approved technical engineering schools listed in the War Department as named by the school faculty may enlist in the Enlisted Reserve Corps of the Engineering Department and thereafter, upon presentation by the registrant to his local board of a certificate of enlistment, such certificate shall be filed with the questionnaire and the registrant shall be placed in Class V, on the ground that he is in the military service of the United States.

The status of engineering students thus established persisted until the abolition of the Enlisted Reserve Corps in 1918, and the establishment of the Students Army Training Corps. By later regulation of the Secretary of War, students in applied sciences were also allowed to enter the Enlisted Reserve Corps of the Quartermaster's Department, the Signal Corps, and the Ordnance Department.

FURTHER EFFORTS TO SECURE FEDERAL DIRECTION OF CIVILIAN TRAINING AGENCIES.

The measures just mentioned resulted in only a partial and inadequate utilization of college resources in the great task of training for war service. They did not furnish the colleges with the authoritative and intelligent direction which was necessary. Neither were they sufficiently definite and drastic to conserve the supply of experts and of officer material. The colleges recognized these defects. From

May, 1917, to February, 1918, a series of efforts were made to induce the Government to coordinate civilian training agencies and to carry out through them a training program appropriate to the immediate needs of the Nation. Since Congress had placed in the hands of the War Department the destinies of young men of college age, it was clear that the responsibility for such coordination rested in the first instance with that department. In fact, the cause of most of the difficulties which colleges faced was the lack of any agency in the War Department itself to consider the question of training in a comprehensive way and to make use of the vast training facilities afforded by civilian institutions. Whatever the opinion of the Secretary of War and the heads of the staff corps with regard to the greater serviceableness of men who had finished their technical training, the inexorable machinery of the selective-service law nevertheless operated to drive technical students as well as others into the Army prematurely. Numerous plans were proposed to the War Department both by individuals and by educational associations looking toward the establishment of such an agency. Indeed, the full ultilization of the civilian educational plant by the Government was the principal topic of discussion at nearly every higher educational gathering during this period.

Limitations of space do not permit the complete enumeration of these efforts. The cumulative effect was doubtless influential in securing the action eventually taken. Naturally the governmental agencies for education, especially the educational committees of the Council of National Defense and the Bureau of Education, were in a strategical position to reinforce these efforts and to exert a constant pressure toward the same end. In fact, these two bodies served as foci through which the opinions of the leaders in the university world were brought to bear upon the persons in charge of training for military operations. This whole movement can therefore best be followed by recording the acts of the two bodies mentioned.

COMMITTEE ON THE RELATION OF ENGINEERING SCHOOLS TO THE GOVERNMENT.

In July, 1917, the Commissioner for Engineering and Education of the Advisory Commission of the Council of National Defense appointed a committee to study the relation of engineering schools to the Government, this committee functioning as a subcommittee of the university committee noted above. Its members were Dean F. L. Bishop, of the Engineering School of the University of Pittsburgh (chairman); Dr. S. P. Capen, of the United States Bureau of Education (secretary); President C. S. Howe, of the Case School of Applied

Science; Dean M. S. Ketchum, of the College of Engineering at the University of Colorado; Dr. C. R. Mann, special investigator for the Carnegie Foundation for the Advancement of Teaching.

Throughout the month of August the committee was in nearly continuous session. It held occasional meetings also up to January, 1918. It was throughout its lifetime in touch with the Society for the Promotion of Engineering Education, the National Engineering Societies, the Association of American Universities, the Association of American Agricultural Colleges and Experiment Stations, and the National Association of State Universities.

The committee's first task was to consult with the heads of various bureaus, divisions, and departments of the Department of War and the Department of the Navy, with regard to the probable needs for scientific and technically trained men in connection with the military operations. The mobilization plans for the Army were not then complete. It was, in fact, impossible to tell either how many specially trained experts would be needed or what relation the probable demand for such persons bore to the available supply among the civilian population. Army authorities were not even certain of the proportionate number of specially trained individuals needed in each type of military unit. Convinced of the urgency of securing this information and relating it to a definite program for the use of educational institutions, the committee presented to the Secretary of War, on August 17, 1917, the folowing recommendation: "That an engineer familiar with the equipment and capacity of the higher technical institutions of the country be commissioned in the Army and assigned to the task of coordinating the needs of the Army for technically trained men with existing educational facilties." On August 31 the Secretary of War detailed an officer of the General Staff to study the needs of the War Department for technically trained men and the methods of securing the cooperation of educational institutions toward meeting these needs. The committee at once entered into a series of conferences with this officer which led to the formulation of certain unexpected conclusions.

It appeared that far greater than the need for highly trained experts was the need for men with lower grades of technical skill. It was the original assumption that a sufficient number of persons qualified to serve the Army as carpenters, automobile mechanics, electricians, blacksmiths, etc., might be secured from the civilian population by means of the selective-service law. Indeed, it was at first thought that sufficient numbers of artisans and technicians would turn up in the ordinary process of the draft to meet these needs. In the summer of 1917 the committee on classification of personnel in the Army began to prepare a census of the drafted

men with reference to their previous occupations, experience, and education. The committee had not completed its work before it became apparent that the draft was failing by a very large per-cent to bring into the service the technicians required for ordinary military operations. Indeed, the calls for specialists from the American Expeditionary Force were operating to strip the units in home camps of the skilled personnel absolutely essential to the effective maintenance of these units. Moreover, the increasing pressure upon technical industries for the production of war materials rendered it unwise to draft larger numbers of technically trained men. It was clear, therefore, that emergency training devices must at once be established, if the Army program were to be a success.

The General Staff officer assigned to the study of this problem and the committee on the relation of engineering schools to the Government worked out a tentative plan for the creation of machinery in the War Department which should supervise the training of both the lower and higher grades of technical experts and should enlist the cooperation of civilian institutions in the task of training.

With the relief of this officer and the assignment of another to the same task, the tentative plan was temporarily shelved. The Federal Board for Vocational Education, which had been established in July, 1917, offered its services to the General Staff for the training of technicians and trade specialists for the Army. The Adjutant General, therefore, issued an order on November 15, 1917, directing the heads of the staff corps to apply to the Federal Board for the numbers of technically trained men needed by each corps. The Federal Board established at once emergency courses in several of the Army occupations for the training of men awaiting the draft. These measures served as only a partial remedy for the difficulty. Their principal defect lay in the fact that the Federal Board had no means of controlling the numbers of men in training. It was also handicapped in administering an extensive training program, owing to the fact that most of the men in its courses were following their regular occupations. It was evident that no accurate correlation of training with the Army needs could be secured without a change of policy.

The Federal Board for Vocational Education consequently brought together the representatives of secondary and higher technical training at two conferences in Washington, and secured their indorsement for a proposal to the Secretary of War substantially similar to that made by the committee on the relation of engineering schools to the Government. The principal feature of both plans was that the War Department should create a special board or committee to have charge of the Army training enterprise other than military, and

should rely upon civilian institutions for the provision of training facilities.

EMERGENCY (AMERICAN) COUNCIL ON EDUCATION.

College and university officers had been growing more and more impatient at the delay in the formulation of the Government policy toward higher institutions. The feeling that there should be at the seat of the Government an independent body without governmental connections which could present the views and the situation of the colleges, gradually crystallized at meetings of the Association of American Colleges and the National Association of State Universities held in Chicago in January, 1918. Delegates from these associations, from the Association of Urban Universities, the Catholic Educational Association, the American Association of University Professors, the Society for the Promotion of Engineering Education, the Association of American Medical Colleges, and the various branches of the National Education Association met in Washington during the last week in January, under the chairmanship of the specialist in higher education in the Bureau of Education. The meeting resulted in the formation of the Emergency Council on Education, the declared purpose of which was:

> To place the educational resources of the country more completely at the service of the National Government and its departments, to the end that through an understanding cooperation:
>
> The patriotic services of the public schools, professional schools, and colleges and universities may be augmented;
>
> A continuous supply of educated men may be maintained; and
>
> Greater effectiveness in meeting educational problems arising during and following the war may be secured.

The Emergency Council elected the following officers:

President Donald J. Cowling, Carleton College, president.
President P. L. Campbell, University of Oregon, secretary.
Dr. Robert L. Kelly, executive secretary.

Executive council.

The president and secretary.
Dean Herman V. Ames, of the University of Pennsylvania.
President Homer H. Seerley, Iowa State Teachers' College.
Right Rev. Thomas J. Shahan, Catholic University of America.

The council changed its name after the first meeting to the American Council on Education. It established headquarters in Washington, and through the active efforts of its executive officers it served as a valuable mediating agent between the Government departments, particularly the War Department, and educational institutions. It interpreted the measures later adopted by the War Department to the colleges. It was especially effective in keeping the operating departments constantly informed of the views and desires of the educational leaders of the country.

COMMITTEE ON EDUCATION AND SPECIAL TRAINING OF THE WAR DEPARTMENT.

The preceding discussion has shown the development of a strong body of opinion, both inside and outside the War Department, as to the necessity for formal action by the department in the matter of its educational program. The Secretary of War and his advisers had before them in the latter part of January the plans suggested by various individuals, by several educational associations, by the committee on the relation of engineering schools of the Council of National Defense, and by the Federal Board for Vocational Education. All were in agreement as to the fundamental ends to be attained. There were indeed only minor differences in the various solutions proposed. On the 10th of February, 1918, the Secretary of War created the committee on education and special training. The order authorizing this committee and defining its functions follows:

1. There is hereby created within the War Department the committee on education and special training. This committee of three members shall consist of Col. Hugh S. Johnson, Deputy Provost Marshal General; Lieut. Col. Robert I. Rees, General Staff, and Maj. Grenville Clark, Adjutant General's Department.

2. Under the direction of the Chief of Staff, the functions of the committee shall be: To study the needs of the various branches of the service for skilled men and technicians; to determine how such needs shall be met, whether by selective draft, special training in educational institutions, or otherwise; to secure the cooperation of the educational institutions of the country and to represent the War Department in its relations with such institutions; to administer such plan of special training in colleges and schools as may be adopted.

3. The committee on education and special training shall have associated with it an advisory civilian board appointed by the Secretary of War, composed of representatives of educational institutions. An officer shall be detailed by the chief of each staff corps and department to consult with the committee concerning the needs of his corps or department.

4. The committee will be given such assistance, commissioned and civilian, as may be necessary to fully execute its duties, with office room in the War Department Building.

The Secretary of War appointed the following gentlemen to serve as members of the advisory board, representing civilian educational interests:

Dr. C. R. Mann, of the Carnegie Foundation for the Advancement of Teaching, representing engineering education (chairman).

Dean James R. Angell, of the University of Chicago, representing university education.

Mr. J. W. Dietz, educational manager of the Western Electric Co., representing vocational education.

Mr. J. P. Monroe, member of the Federal Board for Vocational Education.

Dr. S. P. Capen, specialist in higher education in the Bureau of Education.

Later President R. A. Pearson, of Iowa State College, was appointed to represent agricultural education, and Mr. Hugh Frayne to represent labor interests. On the resignation of Mr. Monroe, his place was filled by Dean Herman Schneider, of the engineering school of the University of Cincinnati.

NATIONAL ARMY TRAINING DETACHMENTS.

Immediately upon its organization the committee and its advisory board proceeded to secure estimates from the staff corps as to the needs of the different branches of the Army for technically trained men. These needs were calculated as accurately as possible and compared with the estimated number of practitioners of various trades that could be expected from the operation of the draft. It appeared that there would be a shortage of approximately 100,000 mechanics by September 1, unless special training courses were set in operation. The committee regarded the provision of these 100,000 mechanics as its first task.

Ordinarily the trade schools and technical high schools would have been enlisted to provide the necessary training. The character of the present emergency, however, made this course of procedure impractical. The committee was engaged in training soldiers. The men over whom it had jurisdiction were already enrolled in the Army, either by voluntary induction or draft. They must therefore be under military discipline and control while receiving their technical training. To insure the effectiveness of this control, they must be housed and fed under military conditions. It was not sufficient that adequate training facilities should be provided by institutions which undertook to train these men. Living quarters and a common mess were likewise essential. Moreover, the requirements of the Army service demanded that all technical specialists should have had contact with practical operations identical with those which they would have to perform with the military forces.

Few trade schools and technical high schools possessed either the housing facilities or the large shops necessary to meet these conditions. The committee therefore turned first to the engineering schools of the country, in the belief that they would be willing to depart from their usual procedure to the extent of accepting and training these groups of tradesmen. With very few exceptions, the engineering schools enthusiastically volunteered for the task. Altogether the committee established 147 training centers for technicians. Of these, 123 were at engineering schools. Some 47 of the principal Army occupations were taught. By April 1 the first 6,000 men were under instruction. At the time of the signing of the armistice 130,000 had been trained; 92,000 had been assigned to military units;

and more than 70,000 had been sent to France. The General Staff had authorized the committee to train 220,000 more before the summer of 1919.

Certain brief comments on the principles underlying the training of these technicians in the so-called National Army Training Detachments and the methods employed may be in order. It was necessary that the training should be brief and intensive. If the requisite number of men were to be produced by the autumn of 1918, the training courses could not exceed two months in length (except for a few trades in which the numbers were small). At the outset it seemed absurd to suppose that inexperienced men could be taught a mechanical vocation in two months. But, to the surprise of the committee and of the school officers, the majority turned out to be competent mechanics on the completion of the courses. In fact, the reports of the officers of active field units to which they were assigned for special duty showed that they were entirely satisfactory and that they saved the situation.

The reasons for this unexpected and truly extraordinary result are not far to seek. They may be summarized under three heads: (*a*) Adequate motivation, (*b*) an intensive and practical method, and (*c*) Army discipline.

(*a*) The experience of the committee, like that of other war-training agencies, appears to demonstrate that the educational processes of peace have used but a portion of the individual's capacity. They have not supplied a compelling motive. With a motive and a method of instruction which is at once practical and interesting, the progress of the learner in any practical pursuit is astonishing. In these courses for technicians the motive for a supreme effort on the part of the student soldier was of course patent. Every man expected that proficiency in the trade which he was learning would improve his military status. Nearly every man also was animated by a high spirit of patriotism.

(*b*) The training methods were as practical as possible. A theoretical or scientific background was not regarded as important. The vital object was to inculcate a knowledge of the job and to develop resourcefulness. Men were consequently put to work at once on practical industrial problems. Automobile mechanics were set to taking down and re-assembling cars; carpenters were given simple building to do. The necessary theory was interwoven with this practical work in greater or less measure. The committee's guide, however, was not any preconception of the pedagogical advantages of one or another mode of presentation. It was rather the specific definition of the job each specialist would have to perform as a member of an Army unit. Because the courses were established on short notice, it was impossible to formulate teaching material to

help the schools. School officers were therefore given the definition of the finished product. For example, a tire repairer would have such and such specific things to do. The committee furnished the men and a statement of the goal; it left the school officers to work out the method whereby the goal might be reached, insisting only upon a maximum amount of actual practice. This resulted in the development of a multiplicity of teaching devices and a wholesome pedagogical rivalry among the different institutions.

(c) The whole training enterprise was galvanized and systematized by military discipline. Moreover, all the men in training were under military instruction for several hours a day, and were consequently in splendid physical condition.

Although the vocational training in the National Army Training Detachments, as they were called, was not higher education, a discussion of it properly belongs in this section, both because it represents an educational contribution made by higher institutions and because of its influence upon the normal educational processes of many institutions. The inclusion of a group of men devoting themselves to a less advanced grade of technical training was, in the beginning, regarded with disfavor and alarm by college officers. After eight months' experience, many of these same officers came to two unexpected conclusions, namely, (1) that the methods employed in the vocational courses might profitably be applied to some extent in the higher grades of professional training, and (2) that the presence of a body of men engaged in practical processes, with an immediate vocational goal in view, strengthens rather than weakens the academic morale.

There is still another aspect of the training offered the National Army Training Detachments which bids fair to have lasting influence, not only on vocational training, but on higher education. It was noted above that the men under special training in these detachments were considered by the Army primarily as soldiers. An ideal soldier, from the point of view of the General Staff, is a resourceful, adaptable man, with initiative and conviction of the righteousness of his cause. The narrowly trained specialist may fail to be a successful soldier. From the beginning, therefore, the committee held that other elements than purely trade instruction should be included in the training. It sought to solve the problem by introducing weekly discussions on the war aims of the United States. These discussions were designed to cover the historical background of the war, the economic and social development, and the types of government of the belligerent countries; and to acquaint the soldier with the expression of different national purposes and philosophies, as these have found their way into literature. No attempt was made to

create official propaganda. The discussions were intended rather to assist soldiers to answer the questions which naturally arose in their own minds. This war-aims course later developed into the war-issues course for the Students Army Training Corps.

THE STUDENTS' ARMY TRAINING CORPS.

Having inaugurated the units of the National Army Training Detachments, the committee and its advisory board proceeded to study the more complicated question of the proper development of the potential officer material contained in colleges and universities. The committee was convinced that the measures already taken to enroll technical students in the Enlisted Reserve Corps were a wholly inadequate solution of the problem. The majority of the students were not satisfied with this status and could not be convinced that they were serving their country in the most useful manner by entering the Enlisted Reserve Corps. Something more definite was demanded, not merely to preserve the supply of prospective technical specialists, but to keep the colleges from being stripped of students. Such a result would have been very unfortunate, from a military as well as an educational point of view, in the event of a long war. The solution which the committee proposed was finally embodied in a letter addressed by the Secretary of War to presidents of colleges, on May 6, 1918:

> In order to provide military instruction for the college students of the country during the present emergency, a comprehensive plan will be put in effect by the War Department, beginning with the next college year, in September, 1918. The details remain to be worked out, but in general the plan will be as follows:
>
> Military instruction under officers and noncommissioned officers of the Army will be provided in every institution of college grade which enrolls for the instruction 100 or more able-bodied students over the age of 18. The necessary military equipment will, so far as possible, be provided by the Government. There will be created a military training unit in each institution. Enlistment will be purely voluntary, but all students over the age of 18 will be encouraged to enlist. The enlistment will constitute the student a member of the Army of the United States, liable to active duty at the call of the President. It will, however, be the policy of the Government not to call the members of the training units to active duty until they have reached the age of 21, unless urgent military necessity compels an earlier call. Students under 18 and therefore not legally eligible for enlistment, will be encouraged to enroll in the training units. Provision will be made for coordinating the Reserve Officers' Training Corps system, which exists in about one-third of the collegiate institutions, with this broader plan.
>
> This new policy aims to accomplish a twofold object: First, to develop as a great military asset the large body of young men in the colleges; and second, to prevent unnecessary and wasteful depletion of the colleges through indiscriminate volunteering, by offering to the students a definite and immediate military status.

Later announcement will be made of the details of the new system. In the meantime, presidents of collegiate institutions are requested to call this matter to the attention of all their students. Those who do not graduate this spring should be urged to continue their education and take advantage of this new opportunity to serve the Nation.

This letter was the first announcement of the Students' Army Training Corps. It was followed by a more definite and detailed statement in the latter part of June. It was the original intention of the War Department to interfere as little as possible with the freedom and independence of colleges. While providing facilities for military training and furnishing young men a strong incentive to attend college, the department expected to leave full liberty of action to college officers, in the development of courses and in the conduct of the institutions. Plans were made during the summer by the committee to put the Students' Army Training Corps into operation on this basis. The committee also indorsed a campaign for collegiate enrollments, which was undertaken by the American Council on Education and the Bureau of Education.

While these arrangements were being made, the military situation changed. It became imperative to deploy America's forces on a vastly greater scale. On recommendation of the Secretary of War and the Chief of Staff, therefore, Congress passed the man-power bill August 30. This action necessitated two radical modifications of the Students' Army Training Corps plan. First, there was no possibility of keeping a large number of men in college for two or three years prior to their attainment of draft age. The new draft ages were from 18 to 45. Second, a very greatly increased number of officers were demanded for the new armies of the autumn of 1918 and the spring of 1919. The central officers' schools could not be relied upon to furnish all of these. Colleges must be regarded as one of the principal sources of officer material.

Authorization for the creation of the Students' Army Training Corps as an active military unit was therefore secured from the President, and the following General Orders No. 79 issued on August 24, 1918:

Under the authority conferred by sections 1, 2, 8, and 9 of the act of Congress authorizing the President to increase temporarily the Military Establishment of the United States, approved May 18, 1917, the President directs that for the period of the existing emergency there shall be raised and maintained by voluntary induction and draft a Students' Army Training Corps. Units of this corps will be authorized by the Secretary of War at educational institutions that meet the requirements laid down in the regulations.

The fundamental difference between the student soldier under the first plan for the Students' Army Training Corps and the member of that corps under the revised plan was that now he became a soldier on active duty. This meant that he must be constantly under mil-

itary control; that he must be housed, clothed, and subsisted by the Government. The relations of the War Department to the colleges, therefore, were radically changed overnight. Colleges which had been approved for units of the Students' Army Training Corps under the first plan were now asked to contract with the War Department for the housing, feeding, and instruction of student soldiers, who should be at all times under military authority. It is a striking testimony of the patriotism of the colleges that practically all of them consented to enter this arrangement. Five hundred and seventeen higher institutions were authorized to maintain units of the Students' Army Training Corps.

On the administrative side difficulties at once arose, which the committee indeed foresaw but could not remedy. The members of the corps were theoretically at all times under military control. College officers, relieved of discipline and deposed from their ordinary authority, were nevertheless in a measure responsible for the academic progress of members of the corps. There was divided responsibility therefore, and an unfortunate dualism of authority which was never remedied before the demobilization of the Students' Army Training Corps.

The Students' Army Training Corps had a brief six weeks of life. Part of this period, moreover, was rendered useless in many institutions by the influenza epidemic which swept the country in the months of October and November, 1919. Indeed, the Students' Army Training Corps ran just long enough to develop all the possible centers of friction and to expose all its serious defects. The orders for its demobilization came before these defects could be remedied. Nevertheless, there were certain educational concepts involved in the plans for the corps which are worth recording. These have been recognized and appreciated by many college officers.

1. *Needs.*—Like the trade training in the National Army Training Detachments, the officers' training carried forward in the Students' Army Training Corps was to have been predicated upon a careful estimate of the needs of the Army for various kinds of officers. For example, the committee discovered that the Infantry service would require from the colleges 3,000 officers a month from October, 1918, and that the Field Artillery would require 2,000 a month. It analyzed the work which each of these types of officers would have to perform and the problems which they would have to meet. It then proceeded to organize courses to fit men directly for these tasks. The courses were originally outlined in consultation with officers from the various services. They were being modified and elaborated at the time of the demobilization of the Students' Army Training Corps. A system was also about to be inaugurated to as-

sign to each course a number of men corresponding to the number required in that branch of the service for which the particular course was designed to train. It was the committee's purpose to integrate training with Army needs, precisely as it had done in the case of mechanics and artisans.

The first prescribed courses issued to the units of the corps carried out in a tentative way this theory. It was understood that members of the Students' Army Training Corps would be called to active service at the time of the summoning of the age groups to which they severally belonged. Thus it was assumed that 20-year-old registrants would be called by January 1, 1919, that 19-year-old registrants would be called by April 1, 1919, and that the 18-year-old group would be summoned in July or August, 1919. The committee therefore required that the college year be divided into quarters. It assumed that 20-year-old students could remain in college three months, 19-year-old students six months, and 18-year-old students nine months. Exceptions were to be made in the case of students of unusual proficiency in specialized curricula, such as engineering, chemistry, medicine, etc. Former college class alignments were abandoned. Curricula were organized leading to each of the principal line and staff services, and divided into quarters. Each curriculum contained certain prescribed subjects. Military drill and a course on the issues of the war were prescribed in every curriculum. In the case of the three months' student the prescriptions were so numerous that there was practically no elective opportunity. A greater amount of freedom of choice was granted to the six months' student; the nine months' student, being allowed to distribute his prescribed work over three quarters, had a considerable amount of academic liberty.

2. *New organization of humanistic training.*—The course on the issues of the war which was prescribed in every curriculum was the direct result of the committee's satisfactory experience with the war-aims courses given to members of the National Army Training Detachments. Indeed, the outline for this course was evolved very largely from the questions asked by members of the National Army Training Detachments. The course on the issues of the war combined history, economics, government, literature, and philosophy. It paid no attention to the artificial divisions which have separated these subjects in the past. It aimed rather to bring about a fusion of the essential elements of these and other subjects. The design was to furnish the student soldier with facts, criteria, and inspiration which would enable him to understand his world and to relate his conduct to the major issues of his life. Incidentally the committee's action resulted in breaking down temporarily the illogical barriers between departments which have so long been traditional in academic organi-

zation. The courses on the issues of the war could not be fairly tested in practice within a period of six weeks. In many institutions, however, the principle upon which they were based so far commended itself to college officers that these courses are to serve as the model for organizing the fundamental elements of peace-time humanistic training. Commenting upon the permanent value of the war-issues course, Dean Woodbridge, of Columbia, says:

> In the past, education was liberalized by means of the classical tradition. It afforded for educated men a common background of ideas and commonly understood standards of judgment. For the present that tradition no longer suffices. If education is to be liberalized again, if our youth are to be freed from the confusion of ideas and standards, no other means looks so attractive as a common knowledge of what the present world of human affairs really is. The war has revealed that world with the impelling clearness which tragedy alone seems able to attain. That our student soldiers may see the issues is of immediate consequence; but the war and its issues will be the absorbing theme of generations to come. To the thoughtful, therefore, the course affords the opportunity to introduce into our education a liberalizing force, which will give to the generations to come a common background of ideas and commonly understood standards of judgment.

3. *Objective tests.*—Inductions into the Students' Army Training Corps were originally based upon bona fide college membership. Colleges were expected to enforce their ordinary admission requirements. A larger number of new students than usual were drawn into the colleges, because the Government assumed their expenses and paid them soldiers' pay. The large and continuous supply of officer material which would be demanded, however, could not be produced with certainty if the old formal admission requirements must be absolved by every student soldier. The Students' Army Training Corps would have to be recruited from that much larger stratum of the population which possessed the capacity to pursue work of college grade but could not meet the formal entrance requirements. Hence a system of recruitment for the corps was devised which combined three elements: (*a*) A personal interview with every candidate, the purpose of which would be to determine the character of his schooling and experience and his general qualifications for college work; (*b*) the Army intelligence test; (*c*) in the case of candidates for courses which by their professional nature demanded special preparation in one or more subjects, such examinations as would be necessary to test the candidate's proficiency in these subjects. This recruitment plan was never issued, because demobilization of the corps was ordered and recruitment ceased. It is undoubtedly cause for regret that a comprehensive experiment with psychological and other objective tests of fitness for college work could not have been made. The material prepared by the committee has, however, interested numerous college officers and has apparently stimulated discussion

and careful consideration of its possible application in college entrance procedure.

Reference has been made to the brief life of the Students' Army Training Corps. To complete the record, it should perhaps here be stated that the corps enrolled some 142,000 men. The signing of the armistice on the 11th of November did away with the need for continuing it as the source of supply for officers. It was ordered demobilized by December 21.

It is, of course, still too early to say what, if any, effects the Students' Army Training Corps may have had upon college methods and organization. There has been, as might be expected, a period of sharp reaction. College officers, smarting under the humiliations imposed by the system of military control, are not disposed to find many virtues in the scheme. On the other hand, aside from the possible influence of the educational policies described above, the influence of military training and discipline upon the student body may have some permanent results. Both faculties and students have recognized the greater efficiency of a student body subject to a military régime. The by-products in the way of physical fitness, development of courtesy, and the spread of a democratic spirit are also too desirable to be lost. Colleges now have before them the task of devising means to retain these tangible advantages of the period of war training. They are also faced with the problem of transforming the spirit of self-sacrifice engendered by the national emergency into a spirit of service to the community and to the Nation in peace. The solution of this problem is admittedly difficult; but unless it is solved America will have lost the best fruits of the war.

It is worth while to point out one fundamental aspect of the Students' Army Training Corps which has not always been recognized. For the first time in history the higher institutions of the country were united in a common purpose. By offering themselves voluntarily to the War Department they created a single training plant for the production of specialists and officers for the Army. In other words, there was created for a brief period a national system of higher education. Further, the whole training program carried out in this system was based on an accurate forecast of national needs. The conditions were of course abnormal. They could never occur in times of peace; nor is it desirable that higher education should be controlled from the center. Nevertheless, this temporary organization contains important implications upon which the colleges themselves may profitably act.

The Students' Army Training Corps saved colleges from virtual extinction. In the letter announcing the plan (quoted above) the Secretary of War alludes to the preservation of higher education as

one of the two important purposes to be attained. In spite of the difficulties of readjustment to a peace basis and in spite of the financial losses (in case of some institutions very great), the higher educational machinery of the United States emerges from the war in more nearly normal condition than that of any other country.

The 15 months of effort to secure an adequate recognition of the importance of civilian training agencies culminated in the Students' Army Training Corps. With the establishment of this agency the Government accepted in its totality the contention of university and college authorities that higher institutions should be formally incorporated into the training plant of the military departments.

THE MOBILIZATION OF SCIENCE.

It was stated at the beginning of this section that the second great problem to the solution of which colleges contributed was the mobilization of science. It was generally recognized when the United States entered the war that the country possessed in its university, laboratories, and staffs of trained research workers an immense scientific capital which could be made immediately productive. Various agencies were at once established to facilitate the use of these resources by the Government and to designate problems for investigation which possessed special military importance.

THE INTERCOLLEGIATE INTELLIGENCE BUREAU.

One of the earliest of these agencies was the Intercollegiate Intelligence Bureau, established by the voluntary action of a group of universities and colleges, under the direction of Dean William McClellan, of the University of Pennsylvania. This bureau set itself the task of furnishing to Government departments, on request, the services of experts needed for highly specialized scientific and administrative tasks. Under its direction the scores of higher institutions which joined it prepared personnel records of those members of their student and alumni bodies and faculties who might be available for such services. Throughout 1917 the bureau furnished effective help to many Government agencies in building up an expert personnel.

THE NATIONAL RESEARCH COUNCIL.

The National Research Council, created by the National Academy of Sciences and affiliated with the Council of National Defense, served as the central agency for determining the research problems connected with the war, allocating them to different scientific agencies for solution and coordinating the results. Under its general direction the great centers of research throughout the country were

kept occupied with Government work. In some 25 of the leading educational institutions the study of problems relating to military optics, to ordnance, munitions, topography, and food conservation were carried on. The council was also concerned in investigations relating to gas defense, dyes, devices for the Navy, high explosives, electrical problems connected with wireless, smoke screens, fuel substitutes, detection of submarines, various pathological and medical problems, the testing of materials, etc. Associated with it also were the group of psychologists, whose contributions revolutionized the methods of organizing Army and Navy personnel.

THE WAR SERVICE OF PROFESSORS.

Large numbers of academic experts in pure and applied science were summoned from their regular university duties and entered the Government service. They became expert advisers and administrators for the Army, the Navy, the War Industries Board, the Food Administration, the Fuel Administration, and nearly every other branch of the Government engaged in preparing for and waging war. A complete census of college and university teachers so employed has not been, perhaps will never be, made. They were numbered literally by hundreds. They rendered services which none but men so trained could render. They were indispensable. Doubtless the effect of this service on the status of the university professor in the public mind will be revolutionary.

THE DEVELOPMENT OF PUBLIC MORALE.

The third problem relating to preparation for war, in which from the outset the higher institutions were concerned, was the development of public morale. Reference to the statement of principles on page 40 shows that college officers early recognized their responsibility in the dissemination of correct information concerning the issues of the war and the interpretation of its meaning. This task had been assumed by the higher institutions of Canada and carried forward by them for three years with extraordinary success. In greater or less measure probably nearly every institution in the United States attempted to perform this service. Two or three especially interesting examples may be mentioned.

The University of Washington, whose president, Henry Suzzallo, was also chairman of the State Council of Defense, organized a group of college and university teachers and teachers in secondary schools, which rendered most effective service in explaining the issues of the war to laborers engaged in war industries. Numerous threatened labor disturbances in the Northwest were thus averted.

The University of North Carolina, which had before the war an especially well organized extension bureau, developed immediately upon the entry of the United States into the war a war-information service. Reports from that State indicate that this was a very effective factor in the development of an intelligent comprehension of America's part in the struggle. The following quotation, from a leaflet issued by the university, gives an outline of this service:

1. EXTENSION CENTERS.—Centers may be established in any community upon the application of a properly organized group of students. From one course to six courses given at each center, each course requiring a month for its completion. A member of the university faculty to be sent to the center at the beginning of the course and the remainder of the group meetings directed by him through a local, well-qualified man. The work to be guided by a syllabus, by outlines, and tested by an examination. The courses to form a consistent whole. The courses (by way of example):
   - *a.* Theories of the State.
   - *b.* Europe since 1815.
   - *c.* South American Relations.
   - *d.* Political Idealism in British and American Literature.
   - *e.* Economic and Social Aspects of the War.
   - *f.* The War as Reflected in Recent Literature.
2. GROUP LECTURES.—Four or five or more of these lectures or similar lectures more popularly treated and without intensive class study may be arranged as a series by any community (e. g., one a month by a Young Men's Christian Association, or similar organizations).
3. CORRESPONDENCE COURSES (with college credit) and READING COURSES (without credit) on the subject matter of these extension center courses, using the same syllabus and other material, but in more popular form. A textbook (326 pages), "American Ideals" (Houghton Mifflin & Co.), prepared by two of the professors, is a source book of selections showing through state papers, speeches, etc., the development of American thought, political ideals, etc.
4. SINGLE LECTURES on a wide variety of subjects related to the war will be furnished to communities as a part of any other lecture plan they may have for special occasions. A list of lecture subjects and lecturers furnished on application.
5. READERS' SERVICE.—This service undertakes to furnish through the university library, the faculty cooperating, information as to books, articles on special subjects relating to the war, furnishing small package libraries of pamphlets on half a dozen important phases of the war and in so far as possible lending books and acting as a distributing agency for putting Government and other publications in the hands of interested readers.
6. DIRECT PUBLICITY ON WHY WE ARE AT WAR AND WHY THIS IS OUR WAR.
   - *a.* Special articles by members of the faculty in journals of education and the like, and special leaflets to be issued by the Extension Service and sent to public school teachers.
   - *b.* Special editions of the University News Letter (a weekly clip sheet published by the university) devoted to these subjects and sent

to a special list of people influential in their local communities, but not for the most part readers of the daily press.

c. Debate subjects and outlines, composition subjects and patriotic programs, for school exercises and celebrations, community gatherings, etc.

7. THE LAFAYETTE ASSOCIATION.—An association—State-wide and Nation-wide, if possible—composed of high-school and grammar-school students, parents, and others interested, called the Lafayette Association to symbolize the ideals to which Lafayette devoted his life and for the purpose of "realizing the infinite power of the public school as the center of the community life of the Nation in the essential task of nourishing, developing, and crystallizing, through expression, the national spirit of present and future America." A full explanation of the Lafayette Association is given in another leaflet.

It soon became apparent, however, that a central official agency was needed, not only to furnish reliable data to these local institutions, but also to give consistency and point to the scattered efforts of individual bodies. The task fell almost by force of gravity to the Committee on Public Information. This committee recruited the services of the best scholars in the fields of history, economics, and government, and under the leadership of Dean Guy Stanton Ford, of the University of Minnesota, prepared the Red, White and Blue Series of popular monographs on the background and issues of the war.

THE NATIONAL BOARD FOR HISTORICAL SERVICE.

The activities of the National Board for Historical Service may appropriately be counted as one of the contributions made by the universities to the war. The board was organized on April 29, 1917, and established headquarters in Washington. Under the chairmanship of Prof. Evarts B. Greene, of the University of Illinois, it sought to direct the activities of historical scholars into lines of national service. It furnished advice concerning university courses, public lectures, popular articles, and research. Cooperating with the History Teachers' Magazine, it contributed a number of supplements, including documents illustrating the German occupation of Belgium, a selected and annotated bibliography of the war, and a notable topical outline entitled "A Study of the Great War," prepared by Dr. S. B. Harding. The board was also in close and active cooperation with the Committee on Public Information, especially in the preparation of the War Information Series and the Red, White and Blue Series.

INTERNATIONAL RELATIONS IN HIGHER EDUCATION.

The war has brought about in the United States a great enhancement of interest in every phase of civilization in the allied countries. Especially have the friendly relations which have existed so long

between the universities of this country and those of France and England received added stimulus. In January, 1918, the commissioner for engineering and education of the Advisory Commission of the Council of National Defense issued, with the indorsement of the council, an invitation to university officers of the allied countries to send groups of representatives to America to confer with and to advise the officers of American institutions. The first nation to respond to this invitation was Great Britain. A distinguished mission, representing British universities, landed in New York on the 8th of October. The members of the mission were as follows:

Dr. Arthur Everett Shipley, vice chancellor of the University of Cambridge.
Sir Henry Miers, vice chancellor of the University of Manchester.
Rev. Edward Mewburn Walker, librarian of Queen's College, Oxford.
Sir Henry Jones, professor of moral philosophy, University of Glasgow.
Dr. John Joly, professor of geology and mineralogy, Trinity College, Dublin.
Miss Caroline Spurgeon, professor of English literature, University of London.
Miss Rose Sidgwick, lecturer on history, University of Birmingham.

Arrangements for their entertainment were made by the American Council on Education. After a visit to Washington, where they were received by the President and by the Council of National Defense, they made a tour of a considerable number of universities and colleges east of the Mississippi River. Conferences on important aspects of the question of educational exchanges between the United States and Great Britain were held in Philadelphia, New York, Chicago, Minneapolis, Houston, and Boston. Definite arrangements were made for the mutual recognition of academic credentials, and tentative plans were proposed for the interchange of students and professors.