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UNITED STATES : 1934-36



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FOREWORD

It is the purpose of this survey to call attention to some of the more significant developments that have taken place in higher education between 1930 and 1936. It covers, to a considerable extent, the critical period of the economic depression and includes those years in which recovery and improvement in higher education have begun to be marked. It presents the developments which have taken place during the period covered by the Biennial Survey of Higher Education, 1934-36.

The reaction of higher education to the depression is considered in some of its quantitative aspects in the statistical reports of the Office, but the results of the depression as it relates to education as a whole are considered in a separate chapter of the Biennial Survey of Education.

The Office acknowledges with great appreciation the cooperation of those who have assisted the author in the preparation of this study. The names of these are mentioned in different parts of the bulletin.

BESS GOODYKOONTZ,
Assistant Commissioner of Education.

VII

Section I

THE HARVARD UNIVERSITY
TERCENTENARY

1. THE CELEBRATION

THE three hundredth anniversary of the founding of Harvard College has particular significance in the higher educational history of this country. The celebration of that event held in 1936, points to what is perhaps the longest period of continuous service which any higher educational institution has been permitted to render in the United States. In view of the importance of the occasion, the authorities of Harvard University held at Cambridge, Mass., a notable tercentenary celebration which was attended by more than 10,000 alumni and a great many visitors from all over the world.

The celebration included two principal parts. The first part was devoted to the Tercentenary Conference of Arts and Sciences which was held from August 31 to September 12, 1936. There were 72 distinguished scholars from different parts of the United States and from foreign countries who participated. The conferences dealt with four major fields of learning, namely, the Humanities, Physical Sciences, Biological Sciences, and Social Sciences. The meetings were open to teachers, professional leaders in their respective fields, and to the laity. Public lectures were given by outstanding scholars such as Eddington, Svedburg, Fischer, Jung, Hopkins, and a number of others. Some of the topics discussed were such as "Authority and the Individual," "Factors Determining Human Behavior" and the lectures included such subjects as "Medieval Universalism and its Present Value," "Stability and Social Change," and "Hellenism and Christianity."

The second part of the celebration was held September 16 to 18. These days were known as the "Tercentenary Days." Among the most important aspects of this phase of the celebration was the reception given to the 547 delegates from other institutions who came from 46 States and 2 Territories of this country, and 40 foreign countries.

The first of this learned delegation to be presented to President Conant was Prof. Saleh Hashem Attia from Al-Azhar University in Cairo. This institution was founded in 970, antedating the founding of Harvard by 666 years. And following the representative from

Cairo were the hundreds of delegates who streamed by in fine array, "blue and purple mingling with subtle shades of Oxford, Cambridge, and Sorbonne red; with the dark kimono of Japan, the green and gold braid of the various Academies of the Institut de France; with the fur-edged gown and chain-of-office of the Mayor of the Borough of Southwark, and the uniforms of the service; with what hundred other gowns and hoods showing scarlet, yellow, orange, lilac; with uniforms, medals, swords, pacific and military caps; with plumes and pompons, ermine and velvet; with shades and values as if as on some great palette; marvelous and romantic as when Stevenson said, 'but the Camisards had only bright and supporting visions!' " "Bright and supporting visions of faces, persons, minds; of distinction, cultivation, and individuality." ¹

On the second day, doubtless the most significant event was the gathering of the members of the Associated Harvard Clubs. In addressing this audience, President Elliot C. Cutler of the Associated Harvard Clubs stated:

We meet today as a part of a great session to honor the Universities of the World, to acclaim the value to humanity of the scholarly and inquisitive mind, to uphold free speech, and in particular to do service again to Harvard University. Nothing created by man has had a more vigorous, useful, and prolonged existence than the universities. They have had their ups and downs; political, social, and religious upheavals have pushed them from their forward course, but always they have returned to assume their certain duty—the grouping of students and teachers to inquire, to investigate, to study for the benefit of mankind.²

The closing day was memorable because of the address of President Conant who said, among other things—

The future of the university tradition in America—that is the problem that must concern all of us who are assembled here today. But what is this tradition; indeed, what is a university? Like any living thing, an academic institution is comprehensible only in terms of its history. For well on a thousand years there have been universities in the western world. During the Middle Ages the air they breathed was permeated with the doctrines of a universal church; since the Reformation in Protestant countries these have undergone a slow and varied metamorphosis. But the essence of the university tradition has remained constant. From the first foundations to the present, four main streams have watered the soil on which the universities have flourished. These ultimate sources of strength are: First, the cultivation of learning for its own sake; secondly, the general educational stream of the liberal arts; thirdly, the educational stream that makes possible the professions; and, lastly, the never-failing river of student life carrying all the power that comes from the gregarious impulses of human beings. All four streams are easily discerned bringing life to the English universities in the first half of the seventeenth century. For this reason Oxford and Cambridge flourished; and because they flourished, their sons who migrated to this strange land desired to cultivate the same sturdy tradition even in a wilderness.³

¹ Notes on the Harvard Tercentenary: Harvard University Press, Cambridge, Mass. 1936. P. 19. Quoted with permission.

² Ibid., p. 25.

³ Ibid., p. 59.

At the close of his address, President Conant conferred honorary degrees on 62 of the 72 distinguished scholars especially invited for that purpose, the other 10 having received honorary degrees from Harvard on earlier occasions.

During the afternoon session former President Lowell made an address showing developments at Harvard. He led to the climax of the celebration by introducing the Right Honourable Stanley Baldwin, Chancellor of the University of Cambridge and Prime Minister of England, who responded over the radio as President Lowell concluded his remarks. Precise as that electric appointment his message carried clear: ⁴

As Chancellor of the University of Cambridge it is with special pride that I send greetings to Harvard University on the occasion of its tercentenary. The Cambridge men from the beginning identified themselves with Harvard; and graduates from Trinity, Emmanuel, and Kings were on the first governing body 300 years ago.

Above all, it was an Emmanuel man, John Harvard, who supplied the funds for the outward and visible sign of the new college and his admirably chosen library for its inward and spiritual grace.

Nor can I forget that it was a graduate of Harvard—his father and grandfather were Cambridge men—who gave his name to Downing Street ⁵ in which I live.

May God's providence, which has watched over Harvard since its first home had to be fenced in to keep out the wolves, continue to bless it, adorned as it now is with magnificent buildings and celebrated throughout the world as a great center of learning.

May Harvard men remain faithful to the great traditions of liberty which are the common glory and heritage of all the English-speaking people of the world, and may we all, as university men, though we cannot hope for the special fame that is John Harvard's, aspire to be remembered in our time in the moving words applied to him by a contemporary:

"The man was a scholar and pious in his life, and endeared to the country in life and death." ⁶

Mr. Lowell in his response said:

If a university can have one mother, Cambridge is our mother; for Harvard was founded mainly by her graduates. Six years after landing on these shores our forefathers set up a college, and named the town after the place where they were trained. The University of Cambridge fostered our early days by granting to our degrees equality with her own. From her we have drawn inspiration and example—not least in these latter times. To her sons we owe a vast debt in science and in letters. In the light she has shed we have rejoiced.

If she be the mother of Harvard, she is, through Harvard, the ancestress of most of the universities and colleges in the United States. It is right that we should turn to her in gratitude this day; and, now when we have prospered, should seek her approbation.

Therefore, in behalf of the thousands of Harvard graduates here assembled, I thank you for the kind words you have said in bringing to us, on this, our three hundredth birthday, the greetings of our parent university. ⁷

⁴ Ibid., pp. 79-80.

⁵ Sir George Downing, Bart., M. P., Class of 1642.

⁶ Notes on the Harvard Tercentenary: Harvard University Press. Cambridge, Mass. 1936, pp. 79-80.

⁷ Ibid., pp. 80-81.

Following these remarks, the President of the United States addressed the audience. Among other things he said:

The past of Harvard has been deeply distinguished. This university will never fail to produce its due proportion of those judged successful by the common standard of success. Of such the world has need. But to produce that type is not, I am sure, the ultimate justification that you would make for Harvard. Rather do we here search for the atmosphere in which men are produced who have either the rare quality of vision or the ability to appreciate the significance of vision when it appears.

Where there is vision, there is tolerance; and where there is tolerance, there is peace. And I beg you to think of tolerance and peace not as indifferent and neutral virtues but as active and positive principles.

I am not, you will observe, conceiving of the university as a mere spectator of the great national and international drama in which all of us, despite ourselves, are involved. Here are to be trained not lawyers and doctors merely, not teachers and businessmen merely; here is to be trained in the fullest sense—man.⁸

The exercises were closed by addresses from President Angell of Yale, and Vice-Chancellor Lindsay of Oxford University and Master of Balliol.

In view of the significant statement made by President Lowell regarding the relation of Cambridge University and Emmanuel College to Harvard, it may not be inappropriate in connection with an anniversary of this type to recall in some small detail the early relation of Harvard College to Cambridge University. This will make clearer the relationship of our present-day higher educational system to the institution which has given so much to the American people in various forms of service.

2. RELATION OF HARVARD COLLEGE TO CAMBRIDGE UNIVERSITY

During the reign of Queen Elizabeth, ecclesiastical conditions in England were considerably unsettled. During the three reigns preceding there were many sudden changes in matters pertaining to church authority as related to doctrine, religious rites, and ceremonies. This condition of affairs was disturbing to the clergy and resulted in negative attitudes which tended to weaken if not destroy their spiritual leadership. In the face of the controversies within the church there was an increasing demand on the part of the people for spiritual help through preaching. Thinking leaders began to realize that the welfare of England would depend on raising the church to a higher ideal of duty. Consequently, it seemed necessary to emphasize a more scholarly training of the clergy and to prepare them for more active service in preaching the Word. This condition was recognized by Queen Elizabeth who, in a letter written March 1560, states that "the study of divinity and of the Scriptures are at this present much decayed within the University of Cambridge."⁹

⁸ Ibid., pp. 84-85.

⁹ Shuckburgh, E. S. Emmanuel College, London, F. E. Robinson & Co. 1904, pp. 19-20.

Fortunately, the Queen had among her advisers one who had an extraordinary grasp of the situation. His name was Sir Walter Mildmay. He was Chancellor of the Exchequer and had with ability and tact also served under three Tudor sovereigns, Henry the Eighth, Edward the Sixth, and Queen Mary. Sir Walter therefore determined to set up a foundation which would fully meet the needs of the times. He says—

the one object which I set before me in erecting this college was to render as many as possible fit for the administration of the Divine Word and Sacraments; and that from this seed ground the English Church might have those that she can summon to instruct the people and undertake the office of pastors, which is a thing necessary above all others¹⁰

Thus the founding of Emmanuel College in 1584 was the result of an important national movement closely related to the Reformation.

The college rose with the rising tide of Puritanism, declined with its decline; contributed more than its just proportion to the seed-plot of the New England in the West; shared to the full in the dawn of a more liberal theology; and through the days of decadence and deadness, though it did not escape their numbing influence, never wholly lost the love of learning or the sense of duty to its trust.¹¹

Some time after founding the college, Sir Walter Mildmay visited the court, and the Queen said, "Sir Walter, I hear you have erected a Puritan foundation." "No, madam," saith he: "far be it from me to countenance anything contrary to your established laws; but I have set an acorn, which, when it becomes an oak, God alone knows what will be the fruit thereof."¹² Fuller continues in his own language, "Sure, I am, at this day it hath overshadowed all the university—more than a moiety of the present masters of colleges being bred therein."¹²

But Emmanuel College not only gave of its sturdy spiritual and intellectual leadership to Cambridge but it sent forth of its own seed nearly a score of graduates who in the space of a few years spread themselves out over Boston and other parts of the New England Colony. It was from this transplanting that a group of men decided to set another "acorn" which was destined to grow, wax strong, and to become over the centuries one of the most powerful educational foundations that this world has seen.

3. CHARACTER OF EARLY HARVARD PROGRAM

Although greatly influenced by the viewpoint of Emmanuel in the training of a competent clergy, Harvard College never limited its program to that of a divinity school. The program of study began as a course in liberal arts and philosophy. Early documents show

¹⁰ Ibid., p. 23.

¹¹ Ibid., p. VIII.

¹² Fuller, Thomas. *The History of the University of Cambridge, and of Waltham Abbey*. London, 1840. Printed for Thomas Tegg. 73, Cheapside. pp. 205-206.

that while learned ministers were in great demand by no means all students planned to become ministers.

According to the Charter of 1650, the purpose of Harvard College is given as follows:

The advancement of all good literature, artes and sciences.

The advancement and education of youth in all manner of good literature, artes and sciences.

All other necessary provisions that may conduce to the education of the English and Indian Youth of this Country in Knowledge: and godliness.¹³

It is also doubtless true that the excellent body of Emmanuel men and their friends felt that Harvard College must be in a position to do even more for society than was planned at Cambridge University. Reform in clerical training was good, but there were other elements in English life that they did not wish transplanted to New England so the program of study was placed on the broadest possible basis considering the times. With a new and more perfect civilization as the goal, Harvard College slowly and steadily made progress, and has reached a status which is well expressed in the appraisal of President Angell of Yale given in his aforementioned address.

In the somewhat fatuous and futile comparisons of institutions with one another, so dear to the hearts of certain rather literal and metallic-minded folk, she is often put first, and judged by many criteria she doubtless deserves such a rating; but her essential human significance is not thus to be measured. Rather does it reside in those sterling qualities which are indigenous to her, reflected again and again in her history; vision and imagination tempered by wisdom, high moral courage and candor, unswerving allegiance to intellectual liberty with unquestioning reliance upon integrity of thought, unshakable belief in the ultimate worth of sheer intelligence and in the incomparable value of the great mind. These are some of the most obvious traits which have brought her undying fame and won for her three centuries of noble history in which every patriotic citizen must take pride.¹⁴

To this we may add that the Tercentenary Celebration came at a time when higher education has been tested to its foundations. By the reaffirmation of fundamental principles upon which true higher education rests, Harvard has been a source of stimulation to its sister institutions and has emphasized anew the true goal of college endeavor.

¹³ Morrison, Samuel Elliot. *The Founding of Harvard College, Cambridge, Mass.*, Harvard University Press, 1935. p. 248.

¹⁴ *Ibid.*, p. 90.

Section II

HIGHER EDUCATION AND THE ECONOMIC DEPRESSION

1. INTRODUCTORY

THE high sense of national responsibility which characterized the men of Cambridge in crucial moments is typical of the sense of responsibility shown by higher educational leadership in this country in relation to the depression and its aftermath.

The first effect of the depression appeared in the heavy financial losses of the colleges, followed by decreased enrollments, and the curtailment of the educational and building programs. Perhaps the most serious result was the discouragement of a large number of young people who had looked forward to satisfactory employment after graduation from college. This discouragement also reached thousands of high-school students and graduates who found themselves without funds or without the ability to obtain part-time employment which would help in meeting their educational expenses.

These conditions led a number of leaders to scrutinize more critically not only the policies of Government but also the educational program on which our present-day civilization rests.¹ It was felt that the schools and colleges had not always given appropriate training to those who were our leaders and that therefore the colleges and universities were to a considerable extent responsible for our troubles.

Whatever truth there may be in such observations, it became increasingly clear that universities and colleges should consider their relations to these new problems and seek to determine more clearly, if possible, their responsibility to the State and society in general. The colleges suddenly became aware of the fact that much of the rapid expansion of educational and building programs was not always based on real necessity but often on the superficial grounds of competition or local pride. As long as there was some justification—at times the slightest—for expansion, and as long as money and men were easily obtained, this expansion had continued.

¹ Coffman, Lotus D. *Education and the Depression: An address, Schoolmen's Week. University of Minnesota, Minneapolis, Mar. 25, 1932.* Published by the university.

Butler, Nicholas Murray. *Report of the President of Columbia University for 1933.* New York, N. Y. Published by the university, pp. 17-18.

Graham, Frank P. *Report of the President of the University of North Carolina, December 1934.* No. 203. University of North Carolina Press, Chapel Hill. p. 9.

The depression helped to check this. The higher educational forest began to receive a clearing and a pruning which hurt for the time but which doubtless already has been compensated for in part by the results in financial improvement, better administration, improved standards of education, and a more serious attitude on the part of teachers as well as students.

2. CONFERENCES ON HIGHER EDUCATION

During this period many important conferences were held. Among these there were several that were concerned with higher education and its relation to the economic depression. Attention is called to four conferences, one of which was called by the Government and three of which were under university auspices.

The Citizens Conference on Education was called by President Hoover January 5 to 7, 1933, in Washington to consider problems of general education and welfare that were related to the depression. In this conference considerable attention was given to higher education. Ray Lyman Wilbur, then Secretary of the Interior, presided. As a result of the deliberations, a declaration of policy was made which included the following sections on higher education.

Rapid and unprecedented development of all forms of higher education during the past two decades especially publicly supported higher education, not only reflects the distinctive character of our democratic idealism, but also furnishes conclusive proof of the reality of the long-recognized principle of the equality of opportunity in American life. From these institutions has come a large proportion of the trained personnel of the established professions and the leadership of our complex industrial and social life. Furthermore, the results of the scientific research carried on by such institutions have been of well-nigh incalculable worth to the economic life of the Nation. When viewed from these two standpoints alone, the general scheme of higher education of the country must be regarded as a principal productive asset, the conservation and further development of which are matters of permanent concern for the States and for the Nation.

The effective economical and nonpolitical operation and adaptation of the plan of popular education, at all levels, from the elementary schools through the universities are fundamental obligations of the American State.

During a period of economic stress, such as that now existing, there is imposed upon all of those in positions of responsibility, whether in Government, industry, or cultural activity, a clear responsibility of affirming the inherent basis of our American plan, and of promoting confidence among the people in their educational institutions. In particular, efforts are needed to avoid any unnecessary reduction in the educational opportunities now available to American youth.

Today, all publicly supported higher institutions, more than ever before, are responsible for the economical administration of their funds. There is abundant evidence that these institutions the country over are capable of making those adjustments in operation made necessary by any reasonable policy of retrenchment. They have already demonstrated their ability and their willingness to share the burden imposed on the economic life of the people.

If the State is to have during the coming generation institutions adequate to serve its needs, it must not now unwisely weaken the human foundations of these institutions.²

Among other conferences, mention is made here of those following:

A conference was called at New York University, November 15 to 17, 1932, by Chancellor E. E. Brown. This conference was national as well as international in its representation. The addresses were published under the title "The Obligation of Universities to the Social Order."³

A conference was called on higher education at the University of Oregon, July 11 to 14, 1934, by President E. V. Boyer. This conference discussed the responsibilities of higher education in the light of changing social, political, and economic conditions. The conference proceedings were published by the university.⁴

The Southwestern Conference on Higher Education was held at the University of Oklahoma, November 14 to 16, 1935, in connection with the tenth anniversary celebration of the presidency of Dr. W. B. Bizzell. This conference gave considerable time to the study of educational and social problems of regional and national interest. The addresses were published under the title "Higher Education and Society."⁵

3. ACTION OF THE FEDERAL GOVERNMENT

a. *College Student-Aid Programs*

As the result of the economic depression, many thousands of young men and women were hindered in obtaining a college education. Thousands of appeals were made to the President and to many Government offices for various forms of assistance. The decline of college enrollments had two disadvantages, the loss to the student whose life purposes were being frustrated and the loss of income to the colleges, many of which were operating under other adverse conditions likewise induced by the depression.

In the fall of 1933 the Federal Emergency Relief Administration supplied \$60,000 on a dollar-for-dollar basis to the University of Minnesota, to be used in assisting needy college students. The success of this experimental program led to its expansion and application on a Nation-wide scale during the last half of the school year 1933-34, when 65,000 students received aid. . . .

The Federal Emergency Relief Administration enabled over 100,000 students to earn their way through college in 1934-35 by providing funds for part-time jobs on socially useful projects. . . .

² Citizens Conference on the Crisis in Education. Report of proceedings by the Agenda Committee, American Council on Education, Washington, D. C. 1936. pp. 12-13.

³ Published by the New York University Press. 1933.

⁴ Proceedings of the Conference on Higher Education, University of Oregon, July 11-14, 1934. University of Oregon Commonwealth Series, vol. I., no. 2, July 1934.

⁵ Published by the University of Oklahoma Press, Norman, 1936.

⁶ Hopkins, Harry L. Report on the Works Program, Works Progress Administration, Oct. 15, 1936. p. 42.

Funds for the student-aid program were allotted to each State by the Federal Emergency Relief Administration, upon application by the State relief administration. Each State was entitled to Federal aid for 12 percent of the total enrollment in its colleges as of October 1934, at the rate of \$15 per month for each student. The colleges chose, however, to spread the money over a larger number of students, resulting in an average, per student, of slightly more than \$13 a month. . . .

This program has raised the morale of young people who were discouraged and gave them new hope and enthusiasm. College presidents have done all they could to cooperate in making the work effective. Out of a total of 1,649 institutions of higher learning in the United States, 1,466 have participated in this program during the past 2 years.⁷

On June 26, 1935, President Roosevelt established the National Youth Administration as a division of the Works Progress Administration. The National Youth Administration, as a part of its program, continues the work of the College Student-Aid Program of the Federal Emergency Relief Administration. In March 1936, 119,000 college students and 4,700 graduate students were participating in this program. The amount allowed to graduate students averages from \$25 to \$30 a month but not more than \$40.⁸

In May 1936, the maximum number of university and college students enjoying this form of Federal aid was 131,925. Of these, 125,625 were undergraduate students and 6,300 were graduate students.⁹

The student-aid program of the National Youth Administration on the whole has not tended to lower standards of scholarship, in spite of the physical as well as mental strain in carrying on work and study programs at the same time. Although, doubtless, in certain cases, difficulties of this kind are bound to arise, yet the investigations of the Office of Education and other authorities show in most cases superior scholarship on the part of students who are working under the student-aid plan.

Of the total number of institutions, as many as one-half (441) reported that the average intellectual ability of the students receiving Federal aid was greater than that of the other students. Their intellectual ability in the other half of the colleges was reported as approximately equal to the regular students. In average scholastic ability, the Federal Emergency Relief Administration students were reported as being higher than the regular students in approximately 53 percent of the institutions. One of the explanations of this superiority is that these students, notwithstanding the fact that they are compelled to work several hours a day to earn the Federal aid, are a more serious-minded group and realize that the Federal Government is giving them their only opportunity to obtain a higher education. The policy of many of the colleges to select students of high scholarship to receive the aid is another influencing factor.¹⁰

⁷ Hopkins, Harry L. *The Emergency Education Program and College Student-Aid Program of the Federal Emergency Relief Administration*, April 1935. p. 25.

⁸ ———. *Report on the Works Program, Works Progress Administration*, Mar. 16, 1936. Washington, D. C. pp. 34-35.

⁹ *Ibid.*, Oct. 13, 1936. p. 41.

¹⁰ Kelly, Fred J., and McNeely, John H. *Federal Student-Aid Program*. United States Department of the Interior, Office of Education Bulletin 1935, No. 14. p. 28. *Bulletin of the American Association of Collegiate Registrars*, July 1936. *Case of Nebraska Wesleyan University*, p. 345. *Case of the University of Buffalo, School and Society*, 45: 24, Jan. 2, 1937.

b. *Federal Emergency Administration of Public Works*

The effects of the depression greatly reduced the amount of building for educational purposes throughout the country between 1930 and 1932. As a measure to offset the difficulties resulting from this situation the Federal Emergency Administration of Public Works made possible loans and grants to educational institutions. Between 1933 and 1936 the amount made available to universities and colleges for building construction reached the sum of \$71,370,244.¹¹

c. *Civilian Conservation Corps Camps and the Colleges*¹²

In the spring of 1936, about 325,000 young men were enrolled in the CCC camps of this country. Of these, 15 percent or nearly 50,000 were either high-school graduates or had spent some time in college. Of these, 6,020 took courses in colleges and universities that were located near the camps, and 23,417 took correspondence and extension courses offered by State University Extension departments.

Between 1934 and the present time colleges and universities gave a great deal of real assistance to young men in the CCC camps. Twenty-five colleges offered special scholarships to qualified CCC camp enrollees who were prepared and desired to continue their college studies. These scholarships ranged in value from \$50 to \$300 per year. Forty universities made correspondence courses available to these enrollees at a low rate of charge. Twenty-five institutions conducted extension classes and special lectures for enrollees either free or at a low rate of charge. Twelve colleges permitted enrollees in nearby camps to use their classrooms and laboratory equipment. Ten institutions permitted these youths to use their library books, and eight institutions loaned visual instruction equipment. Many other evidences of cooperation might be listed.

d. *The Emergency Colleges*

Although not counted among the enrollments of regular colleges and universities, a great many youths and adults were able to obtain instruction of college grade through the agency of the so-called emergency colleges.¹³ These used the services of teachers who were on the relief rolls, and offered from 1 to 2 years of college work, usually under the sponsorship of some standard college. Approx-

¹¹ Allotments for Educational Building Construction. Federal Emergency Administration of Public Works. Projects Division, Research Section. Dec. 1, 1936.

¹² Data supplied by CCC Camps Education Office.

¹³ Swanson, H. B. Education for those out of school. U. S. Department of the Interior, No. 18-III. Office of Education. Bulletin 1936.

mately 15,000 were enrolled during the spring of 1935. The lowest enrollment of this type reported was 12 and the highest 684. Some of these colleges were called freshman colleges, emergency junior colleges, emergency colleges, and Federal junior colleges. State programs of emergency colleges were carried on during 1935 in the following States: Michigan, Ohio, New York, New Jersey, and Connecticut. Individual communities in many other States established them.

e. Project in University Research

The Federal Government through the Works Progress Administration instituted in April 1936 a program of cooperative research under the administrative direction of the Office of Education, United States Department of the Interior. Eighty-five universities participated in the project known as the Project in Research in Universities. This program made available opportunities for professional employment to several hundred needy former college and graduate students in 33 important research studies of various kinds. Among the studies undertaken are those on "Student Mortality in Institutions of Higher Education," the "Economic Status of College Alumni," the "Relation between Certain Factors in High-School Education and Success in College," "Teaching Loads in Engineering Schools," "Professional Recognition of Engineers," and "Teacher Opinion of Graduate Work."

Section III

ADMINISTRATION AND CONTROL OF HIGHER EDUCATION

1. THE CLOSING AND MERGING OF HIGHER INSTITUTIONS OF LEARNING

ONE of the apparent results of the economic depression was the closing or merging of a number of institutions. According to figures for the years 1933-34 to 1935-36, obtained from the Annual Directory of Higher Education, 31 institutions were closed and 22 institutions were reduced to 11 through merging. Of the institutions that were closed during the 3 years indicated, 18 were junior colleges, 3 were senior colleges, 6 were normal schools, 2 were teachers colleges, and 2 were professional schools. The principal loss was found for the junior colleges in 1933-34 when 10 were closed. On the other hand, twice as many mergers took place in 1935-36 as in 1933-34.

Considering the fact that the grand total of higher institutions of learning reporting to the Office of Education in 1935-36 was 1,706, the changes indicated above do not appear to be very significant.

2. ADMINISTRATION OF HIGHER EDUCATIONAL INSTITUTIONS

a. *Increase of Federal Aid to Higher Education*

Beginning with the passage of the Morrill Act of July 2, 1862, for the establishment and support of colleges of agriculture and the mechanic arts in the several States, Congress has passed 19 acts which are of financial benefit to higher educational institutions in this country. Of direct help to the land-grant colleges was the passing of the Bankhead-Jones Act on June 29, 1935. This act is "to provide for research into basic laws and principles relating to agriculture and to provide for the further development of cooperative agricultural extension work and the more complete endowment and support of land-grant colleges." This law is administered in part by the Secretary of Agriculture and in part by the Secretary of the Interior. It provides initial sums for the three aspects of the bill beginning with 1936, as follows: For research, \$1,000,000; "and for each of the 4 fiscal years thereafter \$1,000,000 more than the amount authorized for the preceding fiscal year, and \$5,000,000 for each fiscal year thereafter."

For cooperative agricultural extension work in agriculture and home economics, beginning with the fiscal year 1936, \$8,000,000, "and for the fiscal year following . . . the additional sum of \$1,000,000 until the total appropriations authorized by this section shall amount to \$12,000,000 annually, the authorization to continue in that amount for each succeeding fiscal year."

For the more complete endowment and support of the land-grant colleges beginning with the fiscal year 1936, \$980,000 and "for the fiscal year following the first fiscal year for which appropriation is made, as just indicated, \$500,000, and for each of the 2 fiscal years thereafter \$500,000 more than authorized to be appropriated for the preceding fiscal year, and for each fiscal year thereafter \$1,500,000."¹

The total amount available from Federal sources to the land-grant colleges in 1934 was slightly more than \$18,000,000. By the time the provisions of the Bankhead-Jones Act become fully available, the total income from Federal sources will reach the sum of more than \$35,000,000.

The Columbia Institute for the Deaf, located in Washington, D. C., is a national institution which has had the support of Congress since 1857.² The Federal appropriation for 1936 was \$132,000. This does not include \$34,000, which is appropriated by the District of Columbia for the subcollegiate department.

Howard University, Washington, D. C., has received Federal aid almost continuously since 1879. On December 13, 1928, Congress passed a law legalizing annual appropriations to Howard University which serves on a Nation-wide basis the needs of Negroes for higher and professional education. A 20-year program of cooperation of Congress with the trustees of the university involves a first-class building program and additional funds for instruction and maintenance. The amount appropriated by the Federal Government in 1935-36 was as follows: For operation, \$665,005.79; for buildings, \$667,232.76; a total of \$1,332,238.55.

b. Changes in the Form of Higher Educational Administration in the States

One of the major problems confronting the States for many years has been the need for the reorganization of the agencies of control of State-supported higher institutions of learning. The demands for greater efficiency and economy in college administration led at least 34 States to effect some form of consolidation of their boards of higher educational control prior to 1929. Between the latter year and 1937,

¹ (H. R. 7160), Public, No. 162, 74th Cong.

² Hill, David Spence, and Fisher, William Alfred. In *Federal Relations to Education*. Report of the National Advisory Committee on Education, pt. II. 1931. Pp. 72-74. 744 Jackson Place, Washington, D. C.

five more States passed laws which unified the boards of control of higher educational institutions—Oregon, Georgia, North Carolina, Mississippi, and Rhode Island.

Oregon, in 1909, tried to solve the problem by creating a State board of higher curricula. Although this proved helpful in eliminating certain duplications of curricula in competing institutions, nevertheless the State saw fit in 1929 to abolish the board of higher curricula and also the governing boards of all State higher institutions of learning and in their place set up a State department of higher education. This was directed by a board of nine members who were given authority to control the five institutions supported by the State.

This new board was specifically charged with the unification of the functions of the institutions. Full power was given to the board to reorganize the work of each institution so as to eliminate unnecessary duplication in equipment, courses, schools, extension activities, summer sessions, offices, laboratories, and publications. The law empowered the board to allocate all State funds for the support of higher education to the several institutions with this specific purpose in view.³

Georgia, in 1931, through its legislature abolished the separate governing boards for each of the 25 institutions of higher learning and research under State control. It created instead a single board of 11 members to control all of these institutions under the name "The Regents of the University System of Georgia." This board came into legal existence in 1932. The executive officer of this board is known as the chancellor.⁴

North Carolina, in the same year, enacted a law abolishing as separate entities the State university, the agricultural and engineering college, and the women's college. These three were then consolidated into a single unit known as the University of North Carolina. The separate boards of trustees were abolished and a single board assumed control of the new organization.⁵

Mississippi, in 1932, abolished the boards of trustees of the separate institutions of higher learning of the State and set up a single board known as the board of trustees of State higher institutions of learning, to have the sole supervision and control of the university and the colleges supported and maintained by the State.⁶

Rhode Island, in 1935, created a division of colleges in the State department of education. In this department was set up a single board of regents consisting of 10 members who control Rhode Island State College and Rhode Island College of Education.⁷ This board replaced the separate boards of these two colleges.

³ McNeely, John H. The Problem of Duplication, U. S. Interior Department, Office of Education, Bull. 1934, No. 19, pp. 12-14.

⁴ Ibid., pp. 6-7.

⁵ Ibid., p. 10.

⁶ Mississippi Code, 1936, Annotated, 1933 Supplement, ch. 173, Art. 5, Secs. 7214-1 to 7305-4.

⁷ Rhode Island Public Laws, 1935, May Session, ch. 250.

c. State Reorganization Affecting Higher Education

Although the changes just indicated have been made in the interest of efficiency or economy, in a number of States boards of trustees or regents have lost a part of their independent power through new or reorganized administrative units of State governments. Thus, the financial administration of a university, its personnel administration, or its purchasing departments, are brought under the corresponding divisions of the State executive authority so that the president and the board of trustees have lost much of their autonomy and freedom to act in matters of specific educational concern.

Of particular interest are the cases where the governing board or boards of all higher institutions of learning were incorporated as one of the departments of the State government. In Georgia the board of regents of the university system of Georgia became in 1931 one of 13 departments of the government. In Maryland in 1932, the State University was incorporated within a department known as the "State board of agriculture and regents of the University of Maryland . . . the teachers colleges were incorporated within the Department of Education." Since 1925 New York has controlled all higher educational institutions through the State department of education.

In eight other States governing boards of all State institutions of higher learning were incorporated within State administrative departments and in all but two instances the change took place between 1929 and 1933.

There are seven States in which some State executive official or agency other than the governing board has the authority to classify faculty members and to fix salary schedules. There are two States where this official may approve or disapprove salaries of faculty members as well as promotions, and there are four States where approval of additions to faculty is in his power.

Furthermore, during the present year 1936-37, New York, Texas, and Arkansas, through their respective legislatures fixed salaries of all faculty members in the appropriation acts.

d. Wayne University

In 1933, the Detroit Board of Education united several higher institutions of learning within the city under the name of Wayne University. This coordination of higher educational units became the capstone of the Detroit public-school system. This organization is the only institution of its kind under the control of a city board of education chosen by the direct vote of the people.

Under this type of management the several colleges have set up programs which meet the special needs of many different types of

students. As Detroit is a vast industrial center it has been possible to utilize the many types of industrial, scientific, business, and municipal activities in the service of research and study.

Under the present plan of administration the superintendent of schools is president of the university. However, the deputy superintendent of schools is the executive vice president who actually administers the university.

e. Higher Educational Finances

(1) *Income.*—The financial situation of universities and colleges during the past few years has been exceedingly difficult. In 1919-20, the total income of higher institutions of learning, including universities, colleges, teachers colleges, and normal schools was \$240,141,994. Ten years later in 1929-30 this had nearly trebled having reached the sum of \$631,130,337. Two years later in 1931-32 the effects of the depression became apparent, the figure for that year being \$451,996,833. In 1933-34 this dropped again to \$388,680,849. Compared with 1929-30 this shows a loss in income of nearly 39 percent.⁸

Beginning with the year 1929-30, we find that the publicly controlled institutions had an income of \$234,934,148. This figure dropped to \$220,015,154 in 1931-32 and dropped further in 1933-34 to \$183,547,506. Privately controlled institutions in 1929-30 had an income of \$396,196,229; in 1931-32 this dropped to \$231,981,679 and in 1933-34 it fell to \$205,133,343, barely more than half of the income received 4 years before.

(2) *Increases indicated.*—Reports from 296 universities and colleges for the year 1935-36 show an increase of 12.6 percent in receipts over 1933-34, including those for capital outlay.⁹ As these institutions are representative, it may be expected that college income will regain in the near future much that has been lost.

(3) *Income of privately controlled universities and colleges.*—As privately controlled institutions of higher learning depend to a large extent on income from endowment, it is of interest to observe the trends that have taken place respecting such income over a period of years, including those years which marked the economic depression.

Comparative figures prepared by Walter Crosby Eells¹⁰ show that for 176 institutions, each with endowments of \$1,000,000 or more, there has been a steady rise in rate of income from endowments from 1920 to 1926 when the rate reached the high point of 5.08 percent. In 1933-34 the income was only 3.8 percent. It may be observed

⁸ Figures from Biennial Survey of Education for the years indicated.

⁹ College Receipts and Expenditures, 1935-36. Washington, U. S. Department of the Interior, Office of Education, Circular No. 167.

¹⁰ Income from Endowments. *Journal of Higher Education*, Vol. VII, No. 9, December 1936. Columbus, Ohio. Figures based on Statistics of Higher Education furnished by the Office of Education.

that income from endowment had begun to decline considerably, even before the depression.

Taking a selected group of institutions, each with endowments of \$10,000,000 or more, it was found that the rate of income in 1919-20 was 4.69 percent. For each year following, the rates changed mostly upward until 1928-29 when the rate reached 5.37 percent. By 1932-33 it dropped to 4.38 percent. In 1933-34 it showed 4.39, a very slight increase.

f. Higher Educational Institutions and Insurance and Annuity Plans

Among the important problems of college administration that relate to the efficiency of the teaching staff and other institutional employees are those concerned with protection in old age. A recent study of the Office of Education has brought together valuable information showing the extent to which plans for the financial security of college and university personnel have been adopted.¹¹ This study shows the growth of interest in the problem of social security, an interest which has recently received Federal recognition through the Social Security Act.

Inquiry was made in 1934 of 642 colleges and universities. This number did not include junior colleges, separate teachers colleges, or normal schools. Returns showed that annuity or retirement plans were in operation in 313 institutions.

College pensions were given to a limited extent as far back as colonial times, but modern interest in this service appears to have begun in 1890 and in the years immediately following when Columbia University, Yale University, University of California, Harvard University, and Randolph-Macon Woman's College, among others, set up pension systems for retired teachers.

The pension plan for college teachers set up by Andrew Carnegie in 1906 was the first attempt to attack the problem of suitable college pensions on a broad scale. By 1918, the free pension plan of Carnegie as administered by the Carnegie Foundation was changed into a plan in which the teacher and college cooperated in making joint payments on policies. This plan is operated under the Teachers Insurance and Annuity Association of America.

At the same time, higher institutions of learning were beginning to utilize group insurance plans and other methods of insuring such as State teachers retirement systems and general State retirement systems, which include among other State employees the care of faculties of publicly-controlled universities and colleges. To these should be added pension systems set up by denominational organizations.

¹¹ Flanagan, Sherman E. Insurance and Annuity Plans for College Staffs, Office of Education Bulletin, 1937. No. 8.

Today, 49 publicly controlled higher educational institutions have some form of pension or retirement system. Of these, 20 participate in public-teachers retirement systems, 16 use the plan of the Teachers Insurance and Annuity Association, and 11 have other forms of protection. Of the 49 institutions mentioned, 37 have group-life insurance and 6 have group health and accident policies.¹²

Of the privately controlled institutions, 105 have retirement plans. Of these, 78 utilize the arrangements of the Teachers Insurance and Annuity Association and 27 utilize other plans. Fifty-four of the 105 institutions utilize the group insurance plans and 11 utilize group health and accident insurance.¹²

Among denominational colleges and universities, 56 depend on church resources as the basis for college retirement funds and 40 utilize other plans.

Among teachers colleges 148 publicly controlled institutions and 1 privately controlled college had provisions for teachers' pensions or retirement.

Among Negro colleges, 13 were found to have made retirement provisions for their personnel.

Summarizing, we find that of the 313 institutions under consideration, 106 utilized the retirement plans of the Teachers Insurance and Annuity Association; 94, State or city retirement systems; 56, church pension plans; 25, nonfunded plans of pay out of current income; 12, annuity plans administered by commercial companies; 15, funded plans administered by the institutions; 13, Carnegie pensions only.¹³

g. Personnel Work

Personnel work in recent years has come to be one of the most important aspects of the services that the college renders to the student. Intimate relations often existed between teacher and student a half a century ago. There was a greater consciousness of the personalities of his students, on the part of the professor and even the old-time college president was *ex officio* general father and adviser on all matters relating to student welfare.

With the new century came such an increase in the number of students that some forms of mass teaching seemed necessary. Many of the intimate relations that grew up between students and teachers became more limited and students had to shift for themselves when it came to finding wise counsel on the many problems that are a part of their rather complicated educational life.

The answer to this problem has been the development of personnel service which has undertaken to overcome the difficulties mentioned

¹³ *Ibid.*

and still better to give the student a much more complete type of assistance regarding his general needs in college.

The growth of personnel work and its attendant problems has become phenomenal, especially during the past 10 years.

In checking a recent bibliography on the subject, 618 items were found and 293 of these were reported between 1930 and 1934. Many of these were research studies. In fact, personnel service has come to be considered one of the three great functions of the college, the other two dealing with classroom instruction and with administration.

(1) *Number of institutions reporting personnel departments.*—According to a survey¹³ based on a study of 563 colleges that are members of the American College Personnel Association, 85, or 15 percent, of these have personnel departments.

TABLE 1. *Number and percentage of colleges and universities distributed according to enrollments reporting personnel service*¹

Enrollment of college	Number of colleges	Colleges reporting personnel service	
		Number	Percent
Above 15,000.....	5	5	100
10,000 to 15,000.....	9	7	78
5,000 to 10,000.....	22	11	50
1,000 to 5,000.....	128	35	27
0 to 1,000.....	399	27	7
Total	563	85	15

¹ Strang, Ruth. *Personal Development and Guidance in College and Secondary School*. New York and London. Harper and Brothers, Publishers, 1934, p. 33.

It will be observed that the larger the institutions the greater proportions there are with personnel departments.

(2) *Principal types of personnel organization.*—Regarding this topic, reference is made to the comprehensive study of Ruth Strang. This indicates that as a personnel officer the dean of women stands first as far as numbers are concerned. Other types of officials include the dean of men, the registrar, the academic dean, the psychologist, faculty advisers, the college president, and student counselors.

Strang has summarized the best methods of evaluating personnel work and has also assembled criteria of evaluation. Also studies relating to the selection and orientation of students as well as those relating to educational guidance have been summarized and evaluated in such a way as to aid the personnel workers in selecting the right data for the specific purpose in mind. Space does not permit a more complete study of developments in the field of personnel service in recent years. Nevertheless, attention is called to an important study

¹³ Walters, J. E. *A Study of Personnel Activities in the Colleges and Universities that are members of the American College Personnel Association*. In the *Study of the Individual Student*, Report of the Ninth Annual Meeting of the American College Personnel Association, 1932. pp. 7-18.

of the personnel side of Negro colleges entitled, "A Background Study of Negro College Students", by Ambrose Caliver, senior specialist in the education of Negroes in the Office of Education. (Bulletin 1933, No. 8.) The data for this study concerns background factors and psychological scores of 1,880 Negro college freshmen taken from 33 Negro colleges distributed in 16 States and the District of Columbia.

*h. Measurement*¹⁴

In view of the far-reaching changes taking place in the purposes of collegiate education and the type of students now seeking collegiate education, it is not surprising that the newer methods of testing, sometimes called objective testing, which developed first on the elementary and secondary levels have been extended to the college field. The use of the new-type test in college has expanded in many directions and has gone hand in hand with the expanding scientific approach to the selection and guidance of college students. The expansion has taken place in so many directions in the last few years that it is difficult to mention them all in a brief statement.

With the backing of the American Council on Education, the Cooperative Test Service began a few years ago its work of test construction in the college field. This service in the last few years has developed some five forms of tests in each of the principal freshman college subjects and some others. More recently this service has inaugurated consultative assistance for aid in using its tests. These cooperative tests have been used widely for instructional and guidance purposes as well as for final examinations. To date this service has restricted its work to the measurement of achievement. The work of the Cooperative Test Service has recently been reviewed by a committee of the American Council on Education¹⁵ to determine what new directions this test service will take.

The use of comprehensive tests has increased tremendously since the University of Chicago began its experiment of having students in their first 2 years of work study more or less independently and having these students examined in a few general fields rather than in specific courses. The main purpose in using such tests is to get at the larger principles involved in instruction, rather than the details of specific courses. E. S. Jones of the University of Buffalo recently made a study of this continued development.¹⁶

The use of general intelligence examinations and placement examinations in the admission and guidance of college students has continued

¹⁴ This section was prepared by David Segel, educational consultant and senior specialist in Tests and Measurements of the Office of Education.

¹⁵ The Testing Movement. American Council on Education Studies, Series I, Vol. I, No. 1 (February 1937).

¹⁶ Jones, E. S. *Comprehensive Examinations in American Colleges*. New York, Macmillan Co.

to grow. The American Council on Education Psychological Examination, the new Teachers College Psychological Examination issued by the Teachers College Personnel Association, the Thorndike Intelligence Examination for High School Graduates, the Ohio Psychological Examination, the Carnegie Mental Ability Test, and the Iowa Placement Examinations may be mentioned particularly in this connection.

The development of scientific personnel work in colleges has been made possible through the use of different types of tests and rating procedures. Yale, Buffalo, Smith, Columbia, Stanford, and many others have either regularly organized personnel departments or individuals attached to the registrar's or admission offices carrying on analyses of students' abilities and interests through tests and ratings. Minnesota has created a special test division for carrying on testing activities.

The organization of the Cooperative Test Service for the construction of achievement tests has already been pointed out. However, not only has there been noted accomplishment in the organization of national testing services, but the new-type test in the college area has been considerably improved through studies made by Tyler and others. Tyler's method is to get members of a college department to cooperate in analyzing their course or courses into specific desired outcomes. Testing situations are then built to cover these outcomes. Through this method, a much better relation comes about between instruction and testing—one truly becomes integrated with the other.

Tests better fitted to discover reading difficulties have been devised so that remedial instruction can be planned. Interest questionnaires have been developed by Strong, McHale, Manson, Cleeton, and others as an aid in guidance. Personality measurement and ratings are being experimented with in many institutions.

A machine¹⁷ has been developed which will make it possible to combine weighted scores on different tests instantly without mental computation or mechanical manipulation beyond that of inserting into the machine a sheet of paper, upon which the original scores have been recorded. The importance of this for the guidance movement in institutions which have large numbers of students to counsel is very great.

Many studies of the use of tests and measurements in the college field or on the college-admission problem are being carried on. One of the most important of these is the Pennsylvania study sponsored by the Carnegie Foundation for the Advancement of Teaching. But President Walter A. Jessup of the Carnegie Foundation has stated recently "that we ought not to be too well satisfied with mechanical standards that are so easily measured."¹⁸

¹⁷ International Business Machine Corporation.

¹⁸ Jessup, Walter A. The Integrity of the American College from the Standpoint of College Administration. Bulletin of the Association of American Colleges, March 1936.

3. EDUCATIONAL STANDARDS

a. *Standardizing Organizations*

The control of educational standards in colleges and universities differs greatly throughout the United States. Control of these standards does not in any case lie within the province of the Federal Government. It has come to be exercised in at least three different ways: First, through the States either through State departments of education or public instruction or through the State universities, or both; second, through privately controlled regional accrediting associations; and, third, through national accrediting associations including the Association of American Universities and a number of associations concerned with the professions.

b. *Changes in Standards of the North Central Association of Colleges and Secondary Schools*

This extraordinary development of accreditation of higher institutions during the past 30 years led to the setting up of quantitative standards which enabled the associations to accredit readily the institutions desiring recognition. As time went on, it was found that the standards used gave too much attention to the formal, easily measured factors such as the size of the endowment or income, the physical plant, formal education of teachers, number of books in the library rather than by the extent to which their programs achieved the realization of their objectives.

After 3 years of careful study, the North Central Association adopted a new program for accrediting institutions of higher education April 1934. This program rests on the following basis:

An institution will be judged for accreditation upon the basis of the total pattern it presents as an institution of higher education. While institutions will be judged in terms of each of the characteristics noted in this statement of policy, it is recognized that wide variations will appear in the degree of conformity realized. It is accepted as a principle of procedure that superiority in some characteristic may be regarded as compensating to some extent, for deficiencies in other respects. The facilities and activities of an institution will be judged in terms of the purposes it seeks to serve.¹⁹

Under the new plan, it is expected that the accrediting committees will serve to stimulate improved practices on the part of colleges rather than merely act as policemen in enforcing some formal standards.

¹⁹ Zook, George F., and Haggerty, M. E. *The Evaluation of Higher Institutions of Education*. Vol. I, *Principles of Accrediting Higher Institutions*. pp. 97-98.

c. *Accrediting of Engineering Curricula*

In 1932, an organization known as the Engineers' Council for Professional Development was established. The organization includes representatives of the five national engineering societies, the Society for the Promotion of Engineering Education, and the National Council of State Boards of Engineering Examiners.

The general objective of the E. C. P. D. is the enhancement of the professional status of the engineer. To this end, it aims to coordinate and promote efforts and aspirations directed toward higher professional standards of education and practice, greater solidarity of the profession, and greater effectiveness in dealing with technical, social, and economic problems.

An immediate objective, now apparently practicable of attainment, is the development of a system whereby the progress of the young engineer toward professional standing can be recognized by the public, by the profession, and by the man himself, through the development of technical and other qualifications which will enable him to meet minimum professional standards. In the attainment of the objective of cooperation of the engineering profession and the engineering schools, there has been set up a committee on engineering schools which has for its purpose the accrediting of engineering schools. As there are now at least 35 States in which licensing of practicing engineers is required by law, it has become important to help the engineering schools to realize those standards that will adequately prepare engineers to meet State licensing requirements. After careful consideration, the idea of accrediting institutions as a whole was abandoned in favor of accrediting the different undergraduate curricula. Thus, an institution might be able to meet the standard in one curriculum but not in another. The quantitative data required is obtained through approved forms and other factual sources while qualitative criteria is obtained by personal inspection through committee groups especially chosen for the curricula or educational phases under investigation.

In addition to the usual quantitative criteria, the following qualitative criteria are used:

Qualifications, experience, intellectual interests, attainments, and professional productivity of members of the faculty.

Standards and quality of instruction, both in actual engineering departments and in scientific and other cooperating departments in which engineering students receive instruction.

Scholastic work of students.

Records of graduates both in graduate study and in practice.

Attitude and policy of administration toward its engineering division and toward teaching, research, and scholarly production.²⁰

There will be no rating of schools on the A. B. C. basis.

By October 1936, 35 engineering schools had availed themselves of the services of the examining committee of the E. C. P. D.

d. *Universities and Colleges for Negroes*

In spite of many handicaps, the past 6 years has seen remarkable progress in Negro higher education. This is partly shown by the

²⁰ *Journal of Engineering Education*, May 1936, pp. 695-697.

number of institutions that have been accepted by the Southern Association of Colleges and Secondary Schools for inclusion on its accredited list as for December 4, 1936.

In 1930, there were only five institutions listed as belonging to class B. By 1932, 14 institutions had been listed in the B class. By 1936, these 14 schools in addition to 2 others had obtained recognition as class A institutions. There are now listed 23 colleges, universities, and teachers colleges on the class B list. Between 1931 and 1936, four institutions were placed on the class A list of standard 2-year junior colleges. There are three junior colleges that are on the B list. These groups do not include a number of institutions for Negroes that are already on the lists of other regional accrediting associations.

Section IV

THE STUDENT BODY

1. GAINS AND LOSSES IN COLLEGE ENROLLMENTS

a. The Office of Education Report

THE enrollments in higher educational institutions in 1929-30 were 1,121,154, but enrollments reached their peak in 1931-32 with 1,154,117 students. In 1933-34 the number dropped to 1,055,360, but only 1,418 institutions reported in 1933-34 as against 1,460 in 1931-32.¹ The following table shows percentage gains and losses in enrollments for the biennium reported.¹

TABLE 2.—Higher educational enrollments—Percent of gain or loss between 1931-32 and 1933-34 in all institutions reporting

Institutions of higher learning	Publicly controlled—percent		Privately controlled—percent		Total percent	
	Gain	Loss	Gain	Loss	Gain	Loss
1	2	3	4	5	6	7
All institutions.....		6		8		7
Colleges of arts and sciences.....	1			5		
Undergraduate professional schools.....		3		9		
Graduate schools and departments of arts and sciences.....		11		8		
Graduate professional schools and departments.....		20		2		
Summer sessions of degree-granting institutions.....						21
Degree-granting teacher-training institutions, regular sessions.....						15
Degree-granting teacher-training institutions, summer sessions.....						35
Non-degree-granting teacher-training institutions, regular sessions.....						30
Non-degree-granting teacher-training institutions, summer sessions.....						49

Examination of the table shows that the loss for all institutions was 7 percent. The publicly controlled colleges of arts and sciences are the only ones that registered an increase and only a slight one—1 percent. In the publicly controlled graduate schools and departments of arts and sciences and graduate professional schools, the losses are much greater than those under private control.

The figures for summer session enrollments for degree-granting institutions not including teacher-training institutions show a loss of

¹ For a complete study of the statistics of higher education see ch. IV of the Biennial Survey of Education in the U. S. Statistics of Higher Education. U. S. Department of the Interior, Office of Education, Bull. 1935, No. 2.

21 percent, in degree-granting teacher-training institutions 35 percent, and in non-degree-granting teacher-training institutions 49 percent.

The figures for the regular sessions of degree-granting teacher-training institutions show a loss of 15 percent, and in non-degree-granting teacher-training institutions 30 percent.

These losses were in part responsible for considerable activity on the part of the colleges to overcome them. These losses doubtless would have been much greater had it not been for the policy of the Federal Government in providing means by which needy students could help themselves financially while in college. Furthermore, recruiting of the students by the colleges was carried on in many places to an extraordinary extent. Partial reports seem to indicate that enrollments will return this year to the level of the year 1931-32.

b. President Walters' Report

In the annual report on enrollments in 593 approved universities and colleges, President Raymond Walters of the University of Cincinnati found that for the year 1936 there had been an increase in full-time enrollment over 1935 of 6.5 percent and in grand total enrollment of 7.3 percent. The number of freshmen enrolled in the fall of 1936 was 4.7 percent higher than in 1935.²

c. Factors Influencing Increase in College Enrollments

Although enrollments in higher institutions have apparently increased during 1934-35 and 1935-36, there is some evidence that in the not distant future a stationary point in college enrollments may be reached. Rufus D. Smith, provost of New York University, gives as evidence the following developments:

The birth rate has dropped so precipitously since 1921 that America faces during the current phase of its national life a slowly increasing, even a stationary population, in contrast to a rapidly increasing one. . . .

All data point to the approaching end of American population growth. . . .

Because of the decrease in the actual number of children born—a characteristic of the last 10 years—the school will be among the first of the social institutions to face adjustment.

High-school enrollments have increased enormously throughout the United States, are still increasing, and should increase for several years to come. But by 1937 or 1938, generally speaking, losses in the elementary grades should be reflected in the freshman or ninth year, although the total high-school enrollment may continue to increase for a year or two longer due to the larger numbers in the upper years.

College and university enrollments should continue to increase generally until the early years of the next decade.

² Walters, Raymond. *Statistics of Registration in American Universities and Colleges*. School and Society, Dec 19, 1936.

It may well be that advanced and graduate enrollments in institutions of higher learning will increase for a number of years due to the stiffer competition for secure professional positions.³

Pointing to a trend related to the foregoing, we find the following statements prepared by Fred J. Kelly, Chief of the Division of Higher Education of the Office of Education:

Although the increase in college enrollments has been marked, the percentage of high-school graduates entering college since 1900 has decreased. . . . In 1900, the ratio was 1 college student to 2.2 secondary school students; in 1910, it was 1 to 3.3; in 1920, 1 to 4.2; in 1930, it was 1 to 4.4; and in 1934, it was 1 to 5.8. The ratio of secondary school students to college students, therefore, more than doubled in the 34 years.⁴

The factor of greatest significance in determining college enrollments is, however, entirely independent of the two observations noted above, namely: What percentage of young people will continue their education beyond high school? And the related question, What percentage of adults will find in college and university the place for their continued education from time to time? There is much evidence that increasing percentages of youth will extend the period of their education to include college years. There is also evidence that colleges will play an ever-increasing part in programs of adult education. Until these two tendencies are appraised, it is impossible to say to what extent the lowering birth rates will result in the near future in stopping the increase in college enrollments.⁵

Attention is also called to the study made by President Wilkins of Oberlin College.⁶

d. Scholarships and Fellowships

In 1931 the Office of Education published a report regarding scholarships and fellowships available at institutions of higher learning in this country as for the year 1927-28. The data obtained from colleges, universities, and professional schools not including, however, teachers colleges and normal schools, indicated that 402 institutions offered scholarships and fellowships and that 110 did not, although there were a number of schools that failed to give the necessary data. The 402 institutions reported awarding 34,013 scholarships, fellowships, and assistantships for that year.⁷ The range in annual value was from less than \$50 to more than \$1,500. Of these awards 21,168 were to men, 8,834 were to women, and in 4,011 cases the sex was not indicated. Undergraduate students were recipients of 28,928 awards, mostly scholarships, and 4,370 awards, mostly fellowships, were granted to graduate students. Of these recipients, 5,419 were required to render some form of service.⁸

³ Smith, Rufus D. Population and Schools. *The Journal of Educational Psychology*, April 1936. Vol. IX, No. 8. New York University, New York, N. Y.

⁴ Kelly, Fred J. *Statistics of Higher Education, School Life*, October 1936. U. S. Department of the Interior, Office of Education. See also Kelly: Statement prepared especially for this section.

⁵ Wilkins, Ernest H. Major Trends in Collegiate Enrollments. *School and Society*, vol. 42, No. 1083, Sept. 28, 1935.

⁶ Ratcliffe, Ella B. Scholarships and Fellowships. U. S. Department of the Interior, Office of Education, *Bulletin*, 1931, No. 15.

In 1936 the Office again published a report on scholarships and fellowships based on data for 1934-35.⁷ In this report scholarships and fellowships are considered separately and teachers colleges and normal schools are included.

Six hundred and seventy-four institutions reported available 66,708 scholarships as for 1934-35. The value of these was \$8,863,082. One hundred and ninety institutions reported available 5,797 fellowships. The value of these was \$2,577,478.

(1) *The Rhodes scholarships.*—According to a statement by Frank Aydelotte, American secretary to the Rhodes trustees, the system of selection of Rhodes scholars in the United States was changed in 1929 so as to provide a certain flexibility as between the various States. Up to that time each State automatically received the same number of appointments, with the result that stronger candidates were necessarily refused in some States than those receiving the appointments in others. After a careful discussion, a plan was recommended to the Rhodes trustees by the ex-Rhodes scholars living in the United States and by a large number of American educational leaders, providing for a more flexible system of selection.

Thirty-two scholarships are assigned annually to the United States of America. The States of the Union are grouped into 8 districts of 6 States each for the purpose of making these 32 appointments. There is competition every year in every State. In each State there is a committee of selection which may nominate two candidates to appear before the district committee. Each district committee then selects from the 12 candidates so nominated not more than 4 men who will represent their States as Rhodes scholars at Oxford.

The first selection under this new plan was made in 1930. The results during the 6 years since that time have surpassed all expectations. The best Rhodes scholars are no better than they were before 1930, but the average of the whole group is very much higher, both as concerns intellectual attainment and the general personal qualifications which Mr. Rhodes specified in his will.

2. RECRUITING OF STUDENTS

In view of the decrease in income of colleges, as well as the decrease in enrollments during the depression, many colleges felt obliged to stimulate attendance by various means of recruiting. The recruiting of college students has long been practiced with little criticism, but the results of the depression led a number of colleges to carry recruiting practices to extremes. The use of commercial high-pressure sales-

⁷ Scholarships and Fellowships. Washington, U. S. Department of the Interior, Office of Education, Bulletin, 1936, No. 10.

manship methods, misrepresentation of other colleges by recruiting agents of certain institutions; the using of scholarships as bait instead of using these for worthy and needy students, overenthusiastic statements by the field representative as to opportunities at his institution, the "underbidding" of tuition and other fees by a school when a student has practically decided to matriculate in another college, duplication in high-school visiting by various colleges, the offering of monetary inducements to prospective students are among some of the practices which have come under condemnation.

In view of the exceptional competition among many of the colleges in Ohio, The Ohio College Association, October 1934, laid plans for a critical fact-finding study to deal with the problem of student recruiting. The results of this investigation were made public in the "Report of the Committee on College Entrance Commissioned to Study Student Recruiting" by R. W. Ogan, chairman of the Ohio College Association Committee on College Entrance. Fifty-eight colleges of the State gave full cooperation and seven gave partial cooperation in submitting the data requested. The inquiry covered five main points: The student capacity of the college or university, enrollment and graduation trends, the recruiting methods and practices of the institution, recommendations of the college, and certain general questions as to future financial and educational policies such as; (a) the good purposes that the student recruiting program is destined to serve, (b) what modifications in recruiting and high-school guidance policies are needed in order to effect a more satisfactory college enrollment; and (c) what practices would doubtless be listed as being unworthy of the high standards of professional ideals which befit institutions of higher learning.

With respect to question (a) the answers were quite varied. A few are quoted: "to make the high-school graduate acquainted with the university"; "to awaken young people to a greater realization of the values and possibilities of higher education"; "personal contacts through recruiting give the college added information as to fitness of students for admission and of need for financial assistance"; "to help parents see the value of college education."

With respect to question (b), the following answers are significant: "Recruiting agents should not misrepresent other institutions"; "the underbidding of tuition and other fees by agent when student has already matriculated in another college should be banned"; "the baiting of students with offers of scholarships when they should be offered only to the needy is very objectionable"; "undue stress on the importance of a particular college rather than on the value of college education is also objectionable."

As to question (c) the answers indicate disapproval of the above-mentioned practices as well as many others.⁸

In the minds of some, improper student recruiting began to be emphasized when agents started to solicit high-school athletes as football stars. Rivalry for football material led to the offering of jobs, scholarships, and money. These tactics are coming to be used in the selection of basketball players, bandmasters, track stars, and so on. At the same time, it is recognized that recruiting agents are paid to get results, consequently many agents have in self-protection gone to some extremes.

As a remedy, it has been suggested that the approach to students should be made by a college in cooperation with other colleges. Interest in the student should come ahead of interest in a college.⁹

⁸ Ogan, R. W. Report of the Committee on College Entrance Commissioned to Study Student Recruiting. Ohio College Association, 1935.

⁹ Bulletin, American Association of Collegiate Registrars, July 1936. p. 313. Articles by President Charles J. Turck, Center College, Kentucky, and Bland L. Stradley, Ohio State University, Columbus.

Section V

THE TEACHING STAFF

1. GAINS AND LOSSES IN TEACHING STAFFS

THE statistics of higher education of the Biennial Survey of Education indicate that there was only a negligible decrease in the number of teachers employed in all higher educational institutions between 1931-32 and 1933-34. Although there was a 7-percent loss in enrollments during the same period, it is evident that teachers were not hit so hard by the economic depression as were the students.

As indicated in a following section, the colleges resisted as much as possible any staff reductions, although many teachers suffered salary cuts. The tendency to reemploy teachers who had been dropped naturally followed as soon as conditions improved. In fact, universities, colleges, and professional schools showed a slight gain while teachers colleges showed some loss. But a considerable part of this loss can be attributed to the change in status of several large State teachers colleges, which became State colleges, without any real change in their organizations or functions. Consequently, the losses and gains in these groups are more apparent than real.

2. ACADEMIC FREEDOM OF SPEECH, AND TENURE

In connection with the World War, considerable feeling was aroused by the expression of intense opinion and by arbitrary acts of institutions and individuals. At that time, the issues relating to academic freedom of speech and tenure, had not as yet been clearly defined and this added to additional misunderstanding and ill-feeling in higher educational circles. In view of this situation a number of prominent university presidents as well as the American Association of University Professors carefully analyzed existing conditions and the latter organization made defense of the rights of college teachers, and also recommended what it considered to be a proper procedure in dealing with cases involving academic freedom.

For a full decade the seas of academic freedom remained reasonably calm and only about 30 cases came before the association for consideration during that time. But with the advent of the depression, problems relating to economic and social conditions of the country multiplied and many cases arose in our higher institutions of learning where individual theories came into conflict with institutional tradi-

tions. The extent to which these cases relating to academic freedom increased between 1928 and 1935 is shown in the following table:

TABLE 3.—Cases relating to academic freedom and tenure between 1928 and 1935¹

	1928	1929	1930	1931	1932	1933	1934	1935
1	2	3	4	5	6	7	8	9
Cases pending Jan. 1.....	10	5	10	8	20	7	8	11
New cases opened during the year.....	19	17	27	63	66	69	40	56
Old cases removed.....		3	1	4		9	12	7
Total cases dealt with during the year...	29	25	38	75	86	85	60	74
Cases apparently closed during the year.....	24	15	30	55	79	77	49	61
Cases pending Dec. 31.....	5	10	8	20	7	8	11	13

TABLE 4.—Methods of handling cases

	1928	1929	1930	1931	1932	1933	1934	1935
1	2	3	4	5	6	7	8	9
Cases withdrawn.....	2	6	11	7	20		5	18
Cases reported requiring no action.....	14	3	9	42	4		28	
Cases in which statements have been made or planned without visit.....	6	6	3	7	3	6	0	2
Cases in which visits of inquiry or investigation have been made or planned.....	2	7	6	9	12	9	10	14
Cases otherwise handled.....	5	3	9	10	10	22	17	13
Total cases	29	25	38	75	86	85	60	74

¹ Bulletins of the American Association of University Professors, 19: 91-92, February 1933, and 23: 103-104, February 1937.

With respect to table 3, if we consider the total number of cases dealt with during the 3 years 1928 to 1930 with those dealt with from the 5 years 1931 to 1935, we find that the average number for the 3 years was approximately 31. For the 5 years following, the average is 76 each year, or considerably more than double the average for the 3 years preceding. The largest number of cases considered were in the years 1931, 1932, 1933. In the year 1934 there was a large drop, with some increase again in 1935.

The handling of these cases as enumerated in table 4 indicates that much of the agitation which developed prior to 1930 had begun to subside by 1931 as shown by withdrawals, the large number of cases rejected for consideration by the American Association of University Professors, and the number that required no action.

That so many of the complaints could be disposed of without action on the part of the association is an indication of the natural desire of institutions and individuals to settle their difficulties privately.

Nevertheless, dissatisfaction on the part of the public as well as on the part of thinking men is but the natural result of existing condi-

tions. President Frank P. Graham, of the University of North Carolina, pointed out that—

The break-down of our economic order, recently accepted as one of those automatic, inevitable, and cyclical depressions, is coming to be considered the result of an undue lack of social intelligence and guidance. . . . We of the colleges and universities, in which leaders in church, State, industry, and business are trained, must share heavily in the responsibility for this social drift and economic break-down. A host of men and women leave college every year with too little understanding of the ethical implications of the social drift and the human consequences of economic disorder.¹

(a) *Views of leaders on academic freedom.*—In view of the evidences of unrest in the academic world it may be of interest to call attention to statements from a number of leaders in government and education.

At Howard University on Charter Day, March 2, 1936, Harold L. Ickes, Secretary of the United States Department of the Interior said:

So necessary is education to the upholding of our institutions that we should not let any crisis, however great, interfere with its orderly progress. . . .

Education must be free from any upheaval that would seek to poison or dilute the sources of truth in order to build up a body of opinion that either would be at the willing service of special interests or inimical to the ideals upon which our Government was founded. There must be no curtailment of academic freedom—freedom to trail truth into its most secret hiding place; freedom to proclaim the truth when found and verified; freedom to live one's life with the window of the soul open to new thoughts, new ideas, and new aspirations.

Certain people today are not only encouraging, they apparently are leading what appears to be a deliberate and concerted onslaught on academic freedom. In the final analysis, our colleges and universities are citadels, not only of our liberties but of civilization itself.

Chancellor Samuel P. Capen of the University of Buffalo has pointed out that—

Democracy is committed by its very premises to toleration of differences of opinion. Out of the clash of conflicting opinions, accompanied by unrestricted discussion, popular decisions are crystallized. As the result of these decisions changes are deliberately repudiated. The democratic method is the opposite of the method of the propagandist. The propagandist is a person with a formula and a closed mind. The democratic method is experimental and connotes open-mindedness. And yet democracy tolerates the propagandist because it stands for the right of everyone to express his own opinion no matter how abhorrent the opinion may be to the majority, and even though the opinion may be demonstrably wrong. Democracy does not deal in repressions at all. Inherent in it is the thesis that dissenting minorities shall suffer no disability. It uses force only against those of its citizens who contravene its laws or who seek by violence to overthrow it.²

The statement made by Chancellor Chase of New York University before the National Industrial Conference Board on a recent occasion regarding the responsibilities involved in academic freedom is also significant.

¹ Graham, Frank P. Report of the President of the University of North Carolina. December 1934. No. 293. University of North Carolina Press, Chapel Hill, N. C., p. 9.

² Capen, Samuel P. Address at the University of Buffalo, June 9, 1935.

Referring to the fact that some foreign universities have become training schools of propaganda, he also pointed out—

that every freedom carries with it its responsibility: On the part of a member of a university faculty that responsibility involves the obligation not to confuse propaganda with education; on the platform of the advocate with the chair of the lecturer. There are individuals who have forgotten that responsibility. Just as individual bankers and individual industrialists who have forgotten that their freedom also included a responsibility to the public. But to indict faculties as groups is just as absurd and preposterous as to indict bankers as a class or industrialists as a class. One of the growing tendencies and, I think, one of the most disturbing tendencies is the tendency to distrust and to regiment the many on account of the failures of the few. Moneychanger and college professor have both come in for their share of that indoor sport.³

At the tercentenary celebration of the founding of Harvard University, President Roosevelt in addition to President Conant and President Angell emphasized the importance of freedom of thought.

3. THE EFFECT OF THE DEPRESSION ON FACULTY MEMBERS

A careful study of the effect of the depression and recovery on higher education has been made under the direction of Committee Y of the American Association of University Professors. The plan of the report of this committee is comprehensive and the final study should prove to be of great value in helping to understand numerous problems that have come to the surface in recent years in higher educational institutions. At this time attention is called to certain of the findings of the committee particularly as they relate to employment, salaries, promotion, and tenure, as well as general effect of the depression.

A selected number of institutions, 96 all told, representing colleges, universities, and teachers colleges was the source of factual data. Territorial institutions, Negro institutions, independent professional schools, normal schools, and junior colleges were not included. Of the 96 institutions, 47 were eastern, 15 were southern, and 34 were western; 45 were publicly supported, 31 were privately supported, and 20 were church supported.⁴

a. *Employment*

The total staff of the combined (96) institutions is for the academic year 1935-36 slightly larger than it was in 1930-31, in which year, according to testimony, most institutions were unaffected by depression circumstances. Gross staff size actually showed an increase in 1931-32 over 1930-31. There is some evidence to suggest that 1931-32 represented a peak year in faculty size. The committee data show that the drop in faculty size occurred in the years 1932-33 and 1933-34.

³ Chase, Harry Woodburn. Before the National Industrial Conference Board. May 28, 1936. Twentieth Annual Report of National Industrial Conference Board, New York, N. Y.

⁴ Bulletin of the American Association of University Professors, 22: 168-181, March 1936.

Since then there has been an increase in aggregate staff to a point higher than any year for which data are available. This "recovery" appears to follow about 2 years behind the beginning of the general business up-swing, which is commonly dated as occurring in the summer of 1932.

Instructors were the ones that suffered the most in the decline of employment. Those of higher rank than instructors, on the whole, held their positions. Between 1934 and 1936 the number of instructors increased again, but the losses have not been quite made up.

b. *Salary Reductions*

Eighty of the ninety-six institutions cut salaries, 15 did not, and one reply "indicated no cut, but failure to pay in full." Of those that did not cut, 14 of the cases were in the East and 1 was in the South; 11 were private institutions, 2 were public, and 2 denominational. Size does not appear as a significant factor conditioning the reduction of salaries.

c. *Salary Restorations*

Forty-five of the eighty-one institutions that reduced salaries had made no restoration of the reductions up to November 1935; 32 had; and no information was given in 4 cases. . . .

The analyzers of the restorations reveal that the East is leading. In the South the proportion of restorations is only slightly smaller than for the East. In the West only 35.3 percent of the institutions in the sample have restored previous cuts in whole or in part (East, 43.8 percent; South, 42.9 percent). Sensitive to changing economic conditions in the first instance, the western educational institutions exhibit a greater inertia in later readjustment.

d. *Promotions*

More promotions carrying a salary increase were made effective in 1935-36 than were made for 1931-32.

e. *Appointment Policies*

Thirty of the ninety-six institutions failed to reappoint instructors as an economy measure between 1930-31 and 1935-36. . . .

In 47 of the institutions under consideration there was failure to fill vacancies above the rank of instructor as an economy measure. . . .

f. *Tenure Policy*

In 47 of the 96 institutions all appointments are now made for 1 year regardless of rank. At 48 of the institutions some differential prevails. There was no information in one case. The model pattern for differential appointments is: Professors and associate professors, indefinite terms of service; assistant professors, 2 to 3 years of service; instructors, 1 year, almost without exception. . . .

g. The Reaction of Faculties to the Depression

A partial statement summarizing some of the findings of Committee Y as to the actual effect of the depression on faculty members is given herewith:

Few college faculty members and their families felt actual want or privation. Their problems were, rather, those of adjusting a standard of living and an "overhead" built on the assumption of continued and increasing income to a suddenly decreased income.

A second impression emerging from a reading of the personal statements is that "appearances" loom large in the life of faculty families.

There were many institutions in which adjustment to the depression was made without friction between staff and administration. At other institutions there was hidden hostility that took many forms, all of which were conducive to the destruction of faculty morale.⁵

⁵ Bulletin of the American Association of University Professors, 22: 377-389, October 1936.

Section VI

COLLEGE ORGANIZATION AND INSTRUCTION

1. THE JUNIOR COLLEGE

AMONG higher institutions of learning in this country, the junior colleges are reaching a position of increasing importance. Latest statistics (1936) show that there are now at least 554 junior colleges of all types, which is nearly a third of all institutions of higher learning.

According to a recent study¹ (from which the four following paragraphs are quoted with slight changes), of the junior colleges listed and classified for 1935, 441 are for white students of which 190, or 43 percent, were publicly controlled; 153, or 34.7 percent, were under church control; and 98, or 22.3 percent, were under independent control. To these may be added 22 for Negroes, 15 branch colleges, and 57 miscellaneous small colleges as well as quite a number that have not been classified.

Privately controlled independent junior colleges predominate in New England and the Middle Atlantic States; denominational or church junior colleges are most frequent in the South Atlantic and East South Central States; publicly controlled junior colleges are most common in the West North Central, Mountain, and Pacific States; while in the East North Central States the junior colleges, although fewer in number than in other areas, are about equally distributed among the three types.

According to figures for 1933-34, 149 public junior colleges were operated as follows: 51 were administered as independent units in the public system of education; 64 were administered by a separate executive under the city superintendent of public schools; 29 were administered as a part of a high school; and 9 were administered otherwise. The majority of these institutions (128) were organized on a basis of 2 years above high-school graduation, while 21 claimed other organization plans including 1 to 4 years of high school in addition to a 2-year junior college.

State laws governing the establishment of public junior colleges generally consider the public junior college as an upward extension of the high school and treat the junior college as a part of the secondary school system.

¹ Greenleaf, Walter J. Junior Colleges. U. S. Department of the Interior, Office of Education, Bulletin 1936, No. 8.

A recent survey of the junior colleges of California² shows to a large extent, at least for that State, that the junior college is a terminal institution for a large proportion of its student body. Of the 6,962 junior college students* that expected to enter a higher educational institution of their choice, only 1,956, a little more than a quarter of these, entered, and only 1,160 finally graduated from the institutions named. Of all the students who planned to enter some California university or college, 29 percent entered, but only 17.5 percent actually graduated. Of the 16.9 percent who entered some college or university outside of California, only 7.7 percent actually graduated. Of 252 junior college students who expected to enter teachers colleges, 102 entered and 68 actually graduated. Of 273 who expected to enter the major professions, 54 entered and 36 graduated. Of the 6,437 remaining who expected to enter some other type of college, 1,795 entered and 1,056 graduated.

In Mississippi,³ it was found that of 534 junior-college sophomores who in January 1934 expected to enter other institutions after graduation, only 313, or less than 60 percent, actually did so.

Although the depression doubtless had a negative influence on the students by hindering some in carrying out their objectives, nevertheless these facts seem to indicate that the terminal function of the junior college is of great importance especially in the case of publicly controlled schools.

a. *Success of Transfer Students from Junior Colleges in a State University*

Another important aspect of the relation of the junior college to later education has recently been studied at the University of Arkansas.⁴ A comparison was made of the educational work of junior college students who transferred to the University of Arkansas and entered the junior class, with those students who took all their work at the university. Between 1928 and 1932, 215 transfers to the university were made from State, city, and private junior colleges. The number of students in the control group who did all their work at the university was 436. Without discussing the technique or other details we call attention to certain findings.

Transfer students made significantly higher marks during their junior-college years than did the native students during their first 2 years at the university.

The native students made significantly higher marks during their senior-college years than did the transfer students.

The probable explanations of these differences are: (a) Less rigid marking standards in the junior colleges than in the university, and (b) Less satisfactory status of transfer than of native students on one or more of such factors as training ability, interests, etc.

² Eells, Walter Crosby. Intentions of Junior College Students. *The Junior College Journal*, vol. XII, No. 1, October 1936.

³ Kirby, P. Walker. A Check of Student Expectations. *Junior College Journal*, 5: 345-346, April 1936.

⁴ Kerr, Fred L., and Gerberich, J. R. College Scholarship and Persistence of Transfer Students from Junior Colleges. *Bulletin of the American Association of Collegiate Registrars*, 11: 1-17, October 1935.

2: THE LIBERAL ARTS AND SCIENCES

a. *Subject-Matter Organization versus The Individual Student*

Historically, the pendulum has tended to swing between the values assigned to a well-knit curriculum with definitely limited subject matter and the values assigned to new and rapidly developing knowledge which has not been organized or utilized in traditional fashion. It appears that there is destined to be an eternal struggle between traditional subject-matter and that which is new and evolving. In either case, the problem is one involving the adjustment of the student. The problem or problems might be relatively simple if either of the elements—the subject matter or the student—remained more or less constant. That is, if the student body continued to be more homogeneous and of high caliber, a wiser utilization of subject matter might be made; or, if subject matter was not so changing or spread out, different types of student abilities might more readily be brought into adjustment.

The Middle Ages and the early Modern Period of history had a relatively limited but well-organized content of knowledge, and the universities of the period were crowded with vast numbers of students of all types and ages, far greater in attendance than is the case even in our largest universities. Yet, by a simple yet severe series of examinations, theses and disputations, the talented and perseverant ones obtained their degrees whether baccalaureate, master's, or doctor's.

But the latter part of the nineteenth century and the beginning of the twentieth have shown unbelievable expansion in nearly all fields of subject matter, and this subject matter has not been limited to the use of a relatively few great universities such as those typical of medieval times, but this vast educational deposit has been more or less appropriated by hundreds of small colleges and would-be universities in addition to the relatively few institutions properly manned and equipped for real college and university activity. This condition might have been overcome had the relative homogeneity of the student body been maintained such as it was during the colonial period of our history, but the vast and swelling movement of democracy caught hold of our higher institutions of learning before a rational and easy control of subject matter was possible. So the individual student has suffered accordingly.

The movement headed by President Eliot in 1870, who sponsored at Harvard the elective system, was perhaps the first real attempt to adapt the great masses of subject matter to the individual. In many cases under wise counsel such adaptation was successful. Under poor counsel or supervision the elective system was a failure and much of

the history of higher education during the past 30 years has been the matter of trying to overcome the weakness in the elective system. One of the main evils of the elective system not immediately obvious was the credit-hour or semester-credit plan. This gradually brought college education under a mechanical system which, combined with existing teaching methods tended to thwart the development of scholarship and the proper recognition of the student's personality. Although the traditional classical homogeneous 4-year college curriculum had begun to surrender to more modern needs, the challenge to liberal arts and sciences did not appear serious until the time of the World War about 1917 and following. New readjustments of society called increasingly for a practical or utilitarian type of education. Practical and immediate applications of scientific and economic theories were everywhere in demand.

Since the World War all through the period of prosperity up until about 1930, specialized courses and curricula in general and professional fields were being multiplied. The popularization of secondary education and the demands of business for college-trained men were responsible for the vast flood of students who, with good reason, saw in college education a means to an immediate livelihood and financial reward.

It is during this period that the liberal arts colleges in their different forms found themselves under a competition that was decidedly threatening. (On the one hand they were coming into competition with professionalized education, technical and commercial education, and the junior colleges, and on the other hand the accrediting agencies were making it increasingly difficult for many of the colleges to meet the financial as well as the educational standards set up. Such conditions tended to kill the spark of intellectual and spiritual life in the colleges. While caught in this powerful vise, the leaders in the arts and science institutions began to seek escape.

Some of these difficulties began to be disposed of when the North Central Association began to revise, in a fundamental manner, its method of accrediting. Again, the leaders sought to create a national movement to overcome the difficulties.

b. Experiments in College Education

Accompanying this outward activity, which has the support of the Association of American Colleges and other agencies, we find another form of activity in behalf of liberal arts education which is of great significance. A large number of colleges began a serious study of the problems relating to education in the arts and sciences. Experiments were undertaken and changes were made with the purpose of correcting defects in existing theories and practices. Although a

number of experiments had been undertaken during the earlier period, yet experimentation did not take on its present extraordinary scope until about the time of the beginning of the depression.

In 1930 there was a real feeling of alarm among the colleges, nevertheless the literature published during the past 5 or 6 years seems to show that the fears of the liberal arts colleges have not materialized as earlier predictions seemed to indicate. The great increase in the number of junior colleges, the expansion of urban universities, the growth of professional and technical schools have drawn no doubt on liberal arts college attendance and support. Nevertheless, partly as the result of the trying period of the depression much of the expansion in the aforementioned fields received some check. Specialized curricula and schools are expensive and money was not so readily available. The sobering effects of trial-or suffering have seemed to teach many students as well as teachers that "man cannot live by bread alone" even in educational life. And utilitarian courses having partially failed in their utility, the more permanent or more fundamental values began to receive increased recognition.

Statistical evidence is not available nor possible in support of some of these observations, nevertheless many utterances and activities of higher educational leaders in all types of higher educational institutions add their weight of evidence.

(1) *Character of recent experiments and changes.*—Most of these experiments, if not all, have been brought together, classified, and evaluated in the Thirty-first Year Book, Part II, of the National Society for the Study of Education under the title "Changes and Experiments in Liberal Arts Education."

These authors, after careful study of the evidence, came to the conclusion that the phases of experimental change most significant for the improvement of liberal arts education were these: Deviations from the 4-year homogeneous unit; the reorganization of content to emphasize fields of learning; honors work, the tutorial method, and general examinations; the adjustment of the curriculum to the individual student; learning through experience; the junior year abroad; achievement tests and substitutes for course credits.

Reference is made in the Year Book to 128 experiments and changes, and of these 57 types have been summarized. But this does not signify so much unless there is realization of the large number of colleges and universities that have been experimenting or that have made changes in one or more phases of liberal arts college activities.

We find that under the first general topic, "Care and Direction of Students," there are 12 types of changes and experiments in which there are 405 cases of institutional participation; under the second general topic, "Curriculum and Instruction," there are 25 types of changes and experiments in which there are 688 cases of institutional participation; under the third general topic, "Organization and Ad-

ministration," there are 20 types of changes and experiments in which there are 229 cases of institutional participation. When we consider that 315 colleges of liberal arts were participants, it is evident that many institutions have been experimenting and changing in more than one type of activity or function, the rough average falling between four and five for each college.

c. *Present Trends*

In the light of the critical attitudes of expert authorities as to the existing conditions in the colleges, it is somewhat difficult to generalize with truth as to present-day tendencies. Yet, the examination of the viewpoints of a number of leaders seems to indicate that there is ordered progress in most of our colleges.

There is evident agreement that the needs of the individual student are of paramount importance and that a general education is of the highest significance in the development of the student from the standpoint of the growth of his own nature and from the standpoint of preparation for specialized and professional training. Different types of colleges may differ as to the best methods of attaining these objectives.⁵

In a number of independent 4-year colleges and in a few colleges connected with larger universities, the needs of the student are met by close contact of the student with his teacher or tutor. It may take the form of a variant of the Oxford plan such as exists at Harvard and Yale or in such colleges as Swarthmore and Olivet.

In another group of universities where residence halls and tutorial methods are not practicable, the student receives valuable help through personnel organizations which look after his special interests and needs. In other universities, the horizontal division of the 4-year college into the 2-year so-called General College, or the junior college and the senior college, serves the purposes of general education and at the same time functions in the selection of more homogeneous student groups from a scholastic standpoint. Notable examples of this type are found at the University of Florida and the University of Minnesota. This appears to be in line with a tendency to divide the 4-year college unit,⁶ although Robert L. Kelly indicates that about 500 institutions recognize no significant horizontal division.

In 4-year technological institutions, whether independent or a part of a larger system, the tendency is to reconsider objectives from the standpoint of general training and their relation to specialization.⁷

⁵ McHale, Kathryn, and Speck, Frances Valiant. *Newer Aspects of Collegiate Education*. American Association of University Women, 1634 I Street, N.W., Washington, D. C., 1936.

⁶ Gray, William S. *Recent Trends in American College Education*. Chicago, Ill., University of Chicago Press, 1931; also Wilkins, E. H. *Current Trends in Higher Education*. In *Bulletin of the Association of University Professors*, Vol. XVII. No. 2, February 1931.

⁷ John, Walton C. and Hammond, H. P. *Graduate Work in Engineering in Universities and Colleges in the United States*. U. S. Department of the Interior, Office of Education, Bulletin 1936, No. 6, pp. 65-68.

It is the view that specialization in a field of study must involve thorough mastery, consequently, for such specialization study beyond the undergraduate level is required. This allows for a more complete and thorough grounding in the general or fundamental subjects. There is also a tendency toward a greater synthesis in the college curriculum. Administratively, this has been accomplished in part by the breaking down of narrow departmental barriers and to group and coordinate subject matter in a more purposive manner. Nearly 400 colleges have effected such coordinations.⁹

Warning has been given, however, that the tendency to increase offerings in the liberal arts courses is dangerous as specialization will tend to follow to such an extent as to professionalize the college. It has been pointed out that 20 percent of liberal arts courses might well be abolished and 20 percent transferred to the graduate school.¹⁰

Although recognition must be given to a certain amount of specialization in the college, it is evident that few can gain sufficient knowledge and wisdom during the 4-year undergraduate program that will enable them to pass critical judgment on the complicated problems of our society.

Education should teach us the place of expert knowledge or opinion. In this day of specialization, only those who devote their lives to the given specialty can be expected to possess adequate information to counsel wisely on any great field of human interest. We do not regard it necessary to read the medical journals and the mining journals in order that we may have an informed opinion on these questions. No, we take the word of scholars in these fields and teach it in the schools.¹⁰

A good college education should give, therefore, the bases for critical judgment of what constitute the essential problems, and the value and meaning of expert advice of the specialist as well as the ability to correlate and synthesize some of these factors appropriately.

Finally, in the words of President Aloysius J. Hogan of Fordham University, "The great purpose of a general education is to give the student a view of life and an attitude toward life in its totality, because the *difficulty of the modern trend in education* is caused largely by the fact that it has tried to departmentalize education as men have tried to departmentalize life."¹¹ Such a difficulty largely may be overcome by a reemphasis on attitudes and purposes.

⁹ Kelly, Robert L. Current Curriculum Trends. Bulletin of the Association of American Colleges, Vol. XXI, No. 4, December 1935.

¹⁰ Hibbard, Addison. School and Society, Aug. 20, 1932.

¹¹ Kelly, Fred J. How Education Can Assume Its Responsibility for Social Betterment. Before National Council of Education of the N. E. A. June 30, 1932. p. 11. National Education Association, Washington, D. C.

¹² Statement made to author.

3. ADULT EDUCATION IN THE COLLEGES

a. *Changes in Enrollments*

Adult education on the higher educational level has become increasingly important within recent decades. In 1932 there were 265,205 students enrolled in extension or correspondence courses in universities, colleges, and teacher-training institutions. As the figures reported prior to 1932 included noncollegiate students, it is impossible to make any earlier comparison with the figures of 1932 and later years. In 1934, the number reported was 208,507 indicating a considerable drop, doubtless to be attributed to the depression.¹² It should be understood that the colleges in many cases have been offering noncollegiate correspondence and extension courses. In 1932, 174,296 persons were taking advantage of such offerings.

b. *Urban Universities*

The Association of Urban Universities included 32 universities, colleges, and technical institutions that have large and important urban or municipal constituencies. Among the most significant aspects of the programs of these institutions is the special extension or off-campus courses that are available to the adult members of their constituencies. Statistics¹³ show that the total enrollments of the institutions represented by this group in 1930-31 was 198,973. In 1931-32 this figure dropped to 181,654, a loss of 8.1 percent. In 1932-33 the figure increased to 183,804, or 1.2 percent over the preceding year. In 1933-34 a large increase was shown, the figure being 193,623, or an increase of 5.3 percent over the preceding year. This figure lacks little of the total for the year 1930-31 already referred to.

The number of students taking extension courses in institutions of this group in 1930-31 was 67,474; in 1931-32 it dropped to 57,542, or a loss of 11.6 percent. It dropped to 55,938 in 1932-33, a loss of 2.7 percent. By 1933-34 it increased to 61,458, or 10 percent over the year preceding.¹⁴

Figures were given for campus and off-campus enrollments for the years 1932-33 and 1933-34. In 1932-33, 68,041 were reported in campus classes and 6,136 in off-campus classes. In 1933-34, 71,485 were reported in campus classes and 5,095 in off-campus classes.¹⁴

¹² Biennial Survey of Education, 1930-32, table 3, p. 5.

¹³ Proceedings of the Twenty-first Annual Meeting of the Association of Urban Universities, 1934, Twelfth Report, pp. 91-94.

¹⁴ Figures incomplete in a few institutions.

c. Adult Educational Courses

In many of the institutions included in this group, the economic depression accentuated interest in two types of courses: Those that deal with immediate economic and social problems; and those that relate to better use of leisure. Among the first group of courses may be mentioned current economic controversies, lectures in the social sciences, organization and operation of city government, astronomy, English, contemporary English literature, stock market operation, money, banking and commercial crises, municipal accounting, income-tax procedure, courses relating to adult education, child welfare, retail merchandising, refrigeration, air-conditioning, elementary aeronautics. Among the second are fine arts, lecture recitals in music, popular art lectures, book reviews, medieval architecture, photography, play production, and other subjects related to hobbies. Many of these courses are noncredit courses. Leaders in business and society, both men and women, along with those less-privileged economically, take advantage of these courses. One of the gratifying results of these adult educational programs is the number who come to study for self-improvement without particular interest in formal degree requirements.

The adult education program of the Works Progress Administration with its more than 40,000 teachers and 1,000,000 participating adults has been maintained independently during 1935 and 1936, but the colleges and universities have cooperated in many ways with those in charge.

Section VII

GRADUATE STUDY AND RESEARCH

1. GRADUATE STUDY

ALTHOUGH enrollments in graduate schools and departments register a slight decline comparing the figures for 1931-32 and 1933-34, and although the number of graduate degrees also has shown a similar decline, there is no reason to believe that these conditions are indicative of more than a temporary set-back resulting from the economic situation. Partial reports seem to show that graduate enrollments have overcome this loss already, and will continue to increase.

a. *Master's Degree*

A special analysis of the number of masters' degrees granted in the years mentioned above indicates that the principal decrease in the number of masters' degrees granted is found in the larger State and privately controlled universities while the increase in masters' degrees granted is shown in a large number of smaller institutions.¹ Marsh made a careful selection of typical institutions for the groups under consideration. He found that in 12 State universities between 1931-32 and 1933-34 the total number of masters' degrees granted decreased by 602, or 15 percent; in 12 endowed universities 682 degrees, or 11 percent; in two of the largest teachers colleges—Teachers College, Columbia University and George Peabody College for Teachers, 471, or 19 percent. On the other hand, in 12 typical liberal arts colleges the number of masters' degrees increased by 66, or 28 percent; in 3 Negro universities, 48 degrees, or 192 percent; in 12 tax-supported State teachers colleges, 110 degrees, or 42 percent; in 32 urban universities, 287 degrees, or 6 percent.

In an earlier study, Dean Homer S. Dodge of the Graduate School of the University of Oklahoma had found interesting data in a study of institutions offering the master's degree in nine States of the Southwest. It was found that there were 26 institutions that are not approved by the Association of American Universities that are offering graduate work. "This means that these institutions, which on good

¹ Marsh, C. S. Some Comments on the Master's Degree. Proceedings of the 22nd Annual Meeting of the Association of Urban Universities, Detroit, Mich., Nov. 9, 1936. Pp. 8-19.

authority are not even able to prepare students properly for graduate work, are undertaking to carry on a graduate program." At the same time it is stated that "there are 11 institutions on the approved list which do not feel the necessity of offering work for the master's degree and deserve to be commended for taking this position." With respect to the doctorate in this area, a conservative attitude is generally held.²

If these figures are typical, it is evident that the smaller institutions, many of which are inadequately prepared, are not restricting to any marked extent the granting of the master's degree. And it is probable, in view of the increasing demands of State and city school systems for teachers that hold the master's degree, that due to economic necessity as well as convenience, many of these smaller colleges will be tempted to offer the master's degree without adequate personnel or equipment.

Subject for many years to increasing criticism, the master's degree has been studied by various groups and associations with the aim of clarifying its objectives and strengthening its standards. In 1932, the American Association of University Professors through its committee made a report which included the following general recommendations:

The committee believes:

1. That the widespread dissatisfaction with the present status of the master's degree is justified.
2. That the demand for the degree is nevertheless great and in many quarters increasing.
3. That immediate standardization of requirements is impracticable in view of the several useful purposes which the degree now serves in different institutions.

The report includes a summary of typical standards; length of the course, requirements for the minor or minors, foreign language requirements, thesis and final examinations. The purposes of the master's degree were indicated under three headings: (1) For teacher training for secondary schools; (2) research training; and (3) a postgraduate course.³

After several years of study, the committee on problems relating to the master's degree of the Association of American Universities made its report to the association on November 7, 1935, at the Thirty-seventh Annual Conference of the Association of American Universities held at Cornell University. This report was accepted unanimously by the association and although the standards suggested are not mandatory, it represents the best views of the committee and association on the subject.

The committee recognizes the confusion that exists with respect to the purposes, standards, nomenclature, and administration of

² Dodge, Homer L. Graduate Study in the Southwest. In *Higher Education and Society*. Norman, University of Oklahoma Press, 1936. Pp. 85-90.

³ Bulletin of the American Association of University Professors, 18: 169-170, March 1932.

the master's degree. It recognizes the purposes of the degree to prepare for research, professional training, teaching, and for cultural advancement.

Recommendations are made also respecting final examinations, transfer of credit, nonrecognition of correspondence work, character of the thesis, nomenclature of the degree, administration of the degree, and nonapproval of granting honorary master's degrees.⁴

b. Doctor's Degree

(1) *General trends—Number and distribution of doctorate degrees.*—It is fortunate that records of the number of doctorates granted in the principal fields have been compiled over a period of at least 11 years. The analysis of these records shows certain tendencies which are of importance to research as well as to the administration of graduate study.⁵

In the following table, the number of doctorates granted in 47 major fields or subjects between 1925-26 and 1934-35 are given in order of rank according to totals over the 10-year period.

TABLE 5.—Number and distribution of doctorates by fields for 10 years, 1925-26 to 1934-35, inclusive

Rank	Subject or field	Number of doctorates	Rank	Subject or field	Number of doctorates
1	Chemistry.....	3,565	24	Geography.....	114
2	Education.....	2,646	25	Law.....	107
3	English studies.....	1,166	26	Public health.....	85
4	Economics.....	1,166	27	Metallurgy.....	84
5	Modern history.....	1,068	28	Entomology.....	84
6	Physics.....	1,028	29	General literature.....	83
7	Zoology.....	982	30	Astronomy.....	82
8	Psychology.....	866	31	Art and archeology.....	81
9	Botany.....	793	32	Anthropology.....	75
10	Mathematics.....	690	33	Medieval history.....	75
11	Romance studies.....	518	34	International law and relations.....	66
12	Religion.....	500	35	Medicine and surgery.....	54
13	Philosophy.....	485	36	Horticulture.....	48
14	Geology.....	463	37	Paleontology.....	47
15	Physiology.....	454	38	Genetics.....	40
16	Engineering.....	438	39	Pharmacology.....	37
17	Political science.....	407	40	General history.....	22
18	Sociology.....	407	41	Mineralogy.....	18
19	Classical studies.....	384	42	Music.....	18
20	Agriculture.....	375	43	Library science.....	14
21	Bacteriology.....	330	44	Seismology.....	7
22	Pathology.....	201	45	Meteorology.....	5
23	Germanic studies.....	168			
	Anatomy.....	141	47	Total.....	20,580
	Oriental studies.....	123			

Examination shows the preponderating interest of the graduate student in the field of chemistry. Next in order is education with about two-thirds the number of doctorates compared with chemistry,

⁴Journal of the Proceedings and Addresses of the Thirty-seventh Annual Conference of the Association of American Universities, 1935, at Cornell University, pp. 32-33.

⁵Marsh, Clarence Stephen. American Universities and Colleges, Third Edition. American Council on Education, Washington, D. C., p. 74.

while English studies and economics are paired for third place with one-third the number for chemistry. Political science and sociology are paired with 407 doctorates each; metallurgy and entomology with 84 each; anthropology and medieval history with 75 each; and mineralogy and music with 18 each.

A more general tabulation based on statistics for 1933-34 to 1935-36 shows interesting trends by major subject groups.⁶

Subject groups	Number of doctorates			Gain or loss, 1934 and 1936	
	1933-34	1934-35	1935-36	Number	Percent
1	2	3	4	5	6
1. Physical sciences.....	811	771	766	-45	-5.5
2. Social sciences.....	648	693	667	+19	+3.0
3. Biological sciences.....	625	636	658	+33	+5.2
4. Literature and art.....	316	339	386	+70	+22.1
5. Earth sciences.....	104	104	103	-1	-0.9
6. Religion.....	62	56	54	-8	-13.0
7. Philosophy.....	54	50	49	-5	-9.0

It will be observed that the rankings of the subject groups are the same for each of the 3 years and that gains or losses are consistent for these years except in the case of the social sciences where there is a slight falling off in 1935-36 from the 1934-35 figure.

This table shows the dominant interest in science, although it is interesting to note that the literature and art group has gained considerably in the 3 years under consideration.

Total doctorates by years.—Tabulations show that for the years 1925-26 through 1935-36 (11 years) the following number of doctorates were granted.⁷

1925-26.....	1,368	1929-30.....	2,078	1933-34.....	2,620
1926-27.....	1,504	1930-31.....	2,183	1934-35.....	2,649
1927-28.....	1,548	1931-32.....	2,368	1935-36.....	2,683
1928-29.....	1,912	1932-33.....	2,462		

During the 11 years, 1925-26 to 1935-36, the number of doctorates increased from 1,368 through 2,683, or 96 percent.

(2) *Differentiation of the doctorate.*—During the last few years, new forms of the doctorate have appeared which parallel the degree of doctor of philosophy. The most common of these new degrees is the doctor of education now granted by more than 20 leading higher institutions of learning. Of these more modern degrees the following may be mentioned: Doctor of religious education, doctor of science, doctor

⁶ Gilchrist, Donald B. *Doctoral Dissertations Accepted by American Universities*. New York, N. Y. H. W. Wilson Co., 1936.

⁷ *Ibid.*, p. XIII.

⁸ Complete records of University of Texas not available.

of the science of law, doctor of law, doctor of jurisprudence, doctor of engineering, doctor of medical science, doctor of public health, doctor of science in hygiene, etc. These differ but little from the usual Ph. D. except for two characteristics: First, less emphasis is usually given to original research; and, second, the candidate must generally have had a period of practical or field experience some time before receiving the degree.

As in the case of the master's degree there is a tendency to differentiate the doctorate in the various professional fields.

In the field of mathematics, studies have been made of the relative productivity on a quantitative basis of Ph. D. graduates. Figures given by R. G. D. Richardson, dean of the graduate school of Brown University, show two things: First, over a period of 35 years, it has been found except for about 10 years near the middle of this period, foreign-trained doctors produced practically twice the number of pages of research produced by American-trained doctors; second, that among 1,188 persons in the United States who took the Ph. D. in mathematics between 1862 and 1933, after graduation 46 percent prepared no published papers; 19 percent only 1 paper; 8 percent only 2 papers; 11 percent 3 to 5 papers; 6 percent 6 to 10 papers; 6 percent 11 to 20 papers; 2 percent 21 to 30 papers; and 2 percent more than 30 papers. Dr. Richardson, however, fully recognizes that such quantitative measures are inadequate in determining scholarly production.

Nevertheless, in general for this group, it may be said, that considerably less than one-third of the persons taking the doctor's degree in mathematics have made substantial contributions to research as would be evidenced by the publication of three or more research articles.⁹

As a large proportion of doctoral candidates are found in teaching positions, it has seemed wise on the part of the Mathematical Association of America to recommend two new types of doctorate degrees: Type I, which is an improvement over the existing doctorate with research as the main objective; and type II, in which other work may be substituted for the research thesis. In both types, special consideration is given to specialized preparation for teaching mathematics. Three suggestions are offered as to the names of these two degrees: (1) For type I, the usual Ph. D.; for type II, Math. D. (2) For type I, Ph. D. (in research); type II, Ph. D. (in course). (3) Type I, a new degree; type II, Ph. D.¹⁰

⁹ Richardson, R. G. D. The Ph. D. and Mathematical Research. *American Mathematical Monthly*, April 1936. Oberlin, Ohio.

¹⁰ Report on the Training of Teachers of Mathematics by the Commission on the Training and Utilization of Advanced Students of Mathematics of the Mathematical Association of America. *American Mathematical Monthly*, May 1935. Oberlin, Ohio.

c. *Developments in Advanced Degrees at Columbia University and Harvard University*

(1) *The doctorate at Columbia University.*—Beginning with 1934 the provisions for obtaining the doctor's degree at Columbia University have taken on added interest because of the program of the newly established Advanced School of Education at Teachers College.

In addition to the Ph. D. degree conferred for graduate study and research in the several departments of the faculties of political science, philosophy, and pure science, and also through the joint committee on graduate instruction,¹¹ "Columbia University offers through the Advanced School of Education of Teachers College two doctorates for students in education maintained with equal standards and at the same height of excellence: The degree of doctor of education and the degree of doctor of philosophy." The first emphasizes the highest type of training relating to professional problems, the second emphasizes preparation in research.

The degree of doctor of education is administered by the faculty of the advanced school through the department of advanced professional education. The degree of doctor of philosophy, for the majority of students seeking this degree through the advanced school of education, is administered by the department of educational research, under the faculty of philosophy of Columbia University. The work leading to the degree of doctor of philosophy for advanced school students specializing in practical science is administered by the department of practical science research, under the auspices of the university joint committee on graduate instruction.¹²

Both the degrees mentioned may be obtained in the field of religious education in cooperation with Union Theological Seminary.¹³

(2) *The new teachers degrees at Harvard University.*—Harvard has created a new Ph. D. degree in the history of science and learning. This is in answer to the demand of teachers who are working in fields of history of ideas and history of systematized knowledge.¹⁴

A new degree of master of arts in teaching was recently established at Harvard University under the joint authority of the Harvard Graduate School of Arts and Sciences and the Harvard Graduate School of Education.

Under the new plan, the departments of the faculty of arts and sciences will set up the standards and examine the candidate's knowledge of the subject matter which he proposes to teach, and the faculty of education will have charge of the study of educational material and of apprentice teaching.¹⁵

¹¹ Columbia University, *Bulletin of Information, Graduate Announcements, Faculties of Political Science, Philosophy, and Pure Science, 1937-38.* p. 15.

¹² *Teachers College Bulletin, 26th Series, No. 8, June 1935. The Advanced School of Education, 1935-36.* New York. pp. 15-16.

¹³ *Teachers College Bulletin, Columbia University, 1935-36.* February 1935. p. 11.

¹⁴ *Harvard University Alumni Bulletin, May 17, 1935.* p. 965.

¹⁵ *Ibid., Apr. 10, 1936.* p. 810.

These examples of adjustment of the doctoral programs at Harvard and Columbia are indicative of a more discriminating attitude respecting the functions of the doctor's degree.

d. *Report of Committee on Graduate Instruction, American Council on Education*

In view of increasing interest in the development of graduate study in this country, the American Council on Education appointed a committee on graduate study in 1933. This committee undertook among other matters to ascertain the number of adequately prepared graduate schools in the principal subject-matter fields. The chairman of this committee was President R. M. Hughes of Iowa State College. The final report of the committee's investigations included 35 fields of knowledge, and with the aid of large committees of the national learned societies representing these fields, the institutions were checked which had adequate staffs and facilities for preparing students for the doctor's degree. It was possible in this manner to find those schools that were outstanding in particular fields as well as those that were competent.

This study is one of the most important that has been made bearing on standards relating to graduate schools and although it has been subject to some criticism, the lists of approved schools for several fields have stimulated a great deal of interest and have led to the strengthening of departments or in some cases the abolition of departments that were inadequate in personnel or in facilities.¹⁶

e. *The Study of Graduate Work in Engineering by the Society for the Promotion of Engineering Education*

In 1931 the Society for the Promotion of Engineering Education appointed a special committee to consider the question of graduate work in engineering. Under the chairmanship of Dean Dexter S. Kimball, of the School of Engineering of Cornell University, the committee spent a year of study on some of the major issues involved, and made a report to the society in 1932. As a result of the committee's recommendation, a Nation-wide survey of graduate work in engineering was undertaken by the society in cooperation with the Office of Education. The study included 83 of the 155 schools of engineering listed as of 1932. All of the 83 schools granted the master's degree in engineering or its equivalent, and 34 also granted the doctorate in engineering. The findings of the survey have been published in a bulletin entitled *Graduate Work in Engineering in*

¹⁶ American Council on Education. Report of the Committee on Graduate Instruction, Washington, D. C., April 1934.

*Universities and Colleges in the United States.*¹⁷ The conclusion of the report contains the following statements:

(1) There is apparent need for clarification of the issue between the extension of the undergraduate program into a fifth year, and of the two-stage program of four undergraduate years followed by advanced work of genuine graduate nature.

(2) There is need for recognition of the fact that many of the procedures as well as the content and method of graduate work have been the result of adapting the forms of the older fields of philosophy and pure science without regard to the special attributes or needs of engineering. Herein, distinctive features of graduate work seem likely to evolve.

(3) A problem is before us in connection with the functional aim of graduate work: Should it be directed almost solely to preparation for the design and research function of the profession—with incidental values as preparation for teaching; or should there be proportionate development of the administrative function?

(4) The extent to which the characteristic methods of undergraduate instruction should be carried over into the graduate field seems to be something of a problem; it is not clear that original and self-motivated work on the part of the student is a basic idea in the operation of many graduate programs, particularly for the master's degree. In this connection, it would seem that consideration might be given to the adoption of the honors group plan of work for gifted undergraduates of the junior and senior years as a means of promoting original and self-motivated work in the graduate school.

(5) There are evidently problems of administrative supervision and control of graduate work in engineering, particularly where the engineering division is part of a larger institution. These problems differ, even in the same institution, as to work for the master's degree and for the doctor's degree.

(6) The most pressing at present is the problem of selection and of development of teaching staffs in the graduate field, a condition aggravated by the rapidity of the growth of graduate work and by financial conditions.

(7) Consideration should be given to the possibilities of cooperation among institutions in the development of complimentary programs of graduate work and in promoting transfer of students from institution to institution.

The conclusions further suggest other specific problems which should be given consideration.

f. Graduate Work in Teachers Colleges

In view of the rapidly growing number of teachers colleges that are offering graduate work, the American Association of Teachers Colleges laid plans in 1936 for a discussion of standards and practices. These include quantitative elements, qualitative elements, distinctly professional elements, minimum standards and desirable goals, preparing new standards, financing a study of standards, and the investigation of standards for graduate work. It was also proposed to set up standards for the accrediting of graduate work in teachers colleges.¹⁸

¹⁷ John, Walton C. and Hammond, H. P. *Graduate Work in Universities and Colleges in the United States*. U. S. Department of the Interior, Office of Education, Bulletin 1936, No. 8.

¹⁸ Brandenburg, W. A. *Fifteenth Year Book*. The American Association of Teachers Colleges, 1936. Pp. 19-20.

A report was made by the committee appointed to make a survey of member institutions of the American Association of Teachers Colleges under the direction of President W. A. Brandenburg, Kansas State Teachers College. The survey included 12 State teachers colleges, 13 schools of education in universities and colleges, 1 private teachers college, and 1 municipal college.

A general statement regarding the findings is quoted herewith:

The scope of graduate study in the colleges of this survey differ so widely that it is difficult to give a picture applicable to each. Graduate study in each of the 13 schools of education in universities and colleges is usually under the supervision of and complies with the standards and practices of the graduate school in the institution of which it is a part. Four of the State teachers colleges grant master's degrees from the department of education only, and 5 grant degrees which do not require education as a part of the graduate program.

There is little agreement among the 12 State teachers colleges as to major fields outside of education. The work is distributed over 27 majors. One school offers 12 majors, and another 11. Most, however, limit their offerings to a much smaller number. There seems as yet, to be no tendency to enter fully into the training of teachers of academic subjects at the graduate level. Considerable confusion exists as to the nature of a transcript that admits to graduate status for a major in an academic field. This may be due to the fact that the types of degrees do not seem to be well defined.¹⁹

g. Graduate Study for Negroes

The rapid expansion of elementary and secondary schools for Negroes throughout the South has led to improvement of standards for Negro teachers in that region. Opportunities for graduate study and professional improvement in the field of education have not been adequate in approved Negro colleges and universities, although in a number of institutions excellent programs have been made available leading to the master's degree. In several States in which such opportunities are not available in Negro institutions, laws have been passed and means provided which enable graduate students and students of such professions as law and medicine to attend institutions in the North without greater cost than if such instruction had been provided in the particular States. According to the latest information available, 5 States have made such provisions in the interest of equalizing educational opportunities for Negroes: Maryland, Missouri, Tennessee, Virginia, and West Virginia.

2. RESEARCH

The promotion of research is one of the major functions of the graduate school, and next to the training of teachers it is probably the most important. There are approximately 300 colleges and universities in the United States that confer the degree of master of arts

¹⁹ *Ibid.*, p. 38.

and among these nearly 80 grant the doctorate. It is probable that some form of investigation or research is carried on from time to time in most of the institutions that grant the master's degree. In the institutions offering the doctorate, research occupies an important place.

According to data prepared by President Raymond M. Hughes in his study of graduate instruction in 76 universities that grant the Ph. D. degree, there were 4 universities that granted the doctorate in 30 to 33 different fields of study; 15 covered between 25 and 29 fields; 5 covered between 20 and 23 fields; 15 covered between 15 and 19 fields; 18 covered between 10 and 14 fields; 11 covered between 5 and 9 fields; and 11 covered between 1 and 4 fields.²⁰

In 1931-32, the total amount of money spent for organized research separately budgeted in institutions of higher learning of all types reporting was \$21,977,441, of which \$102,332 was spent in teachers colleges and normal schools.²¹ In 1933-34, the amount reported was \$17,063,860, of which \$89,897 was carried on in teachers colleges and normal schools.²²

This type of research does not, of course, include the large amount of research conducted as a part of regular departmental programs of instruction and research.

a. *Stimulation and Coordination of Research*

Although each institution may have its own research program and may be working in cooperation with one or more societies or associations concerned with specific fields of research, yet fostering of research activities on a national basis is among the purposes of several major research organizations that help to stimulate and coordinate much of the research that is being done in their respective areas of subject matter.

The leading organizations of this type include the following: The American Association for the Advancement of Science, the American Council of Learned Societies, the National Research Council, the Social Science Research Council, the American Council on Education, Office of Experiment Stations, United States Department of Agriculture, and in close relationship to the latter, the committee on projects and correlation of research of the Association of Land-Grant Colleges and Universities. Engineering Experiment Stations are included in

²⁰ Graduate Study in Universities and Colleges in the United States. U. S. Department of the Interior, Office of Education, Bulletin, 1934, No. 20., p. 57.

²¹ Biennial Survey of Education, 1931-32. U. S. Department of the Interior, Office of Education, Bulletin 1933, No. 2, p. 113, table 16.

²² Ibid., 1933-34. U. S. Department of the Interior, Office of Education, Bulletin 1935, No. 2, p. 108, table 16.

the latter Association. Important also are the Carnegie Foundation for the Advancement of Teaching and the Carnegie Corporation.

(1) *The American Association for the Advancement of Science.*—The American Association for the Advancement of Science has a membership of more than 18,000 in this country. The province of the association includes the stimulation of research in the following sections, 15 in number, namely; Mathematics, physics, chemistry, astronomy, geology and geography, zoological science, botanical sciences, anthropology, psychology, social and economic sciences, historical and philological sciences, engineering, medical sciences, agriculture, and education. Affiliated and associated with these sections are a large number of scientific societies and State academies of sciences.

Small grants were made available to students and research workers through the State academies of science beginning with 1935. In this year, \$1,925 was available; in 1936, the same amount. In 1937, \$2,325 will be available.

The total appropriations for grants to students during the past 5 years have been as follows: 1930-31, \$3,400; 1931-32, \$2,000; 1932-33, \$2,300; 1933-34, \$1,870; and 1934-35, \$3,050.²³

(2) *The American Council of Learned Societies.*—The American Council of Learned Societies has been established to provide information regarding those American societies and organizations that are concerned with the humanities. In this country there are approximately 300 organizations that are devoted to the humanities. The constituent organizations of the American Council of Learned Societies include the American Philosophical Association, the American Academy of Arts and Sciences, the American Antiquarian Society, the American Oriental Society, the American Philological Association, the Archaeological Institute of America, the Society of Biblical Literature and Exegesis, the Modern Language Association of America, the American Historical Association, the American Economic Association, the American Philosophical Association, the American Anthropological Association, the American Political Science Association, the Biographical Society of America, the American Sociological Society, the American Society of International Law, the History of Science Society, the Linguistic Society of America, and the Medieval Academy of America.

The American Council of Learned Societies is a member of the International Union of Academies.

In addition to its many special research projects and studies, the American Council of Learned Societies has rendered assistance to

²³ Data furnished by Henry B. Ward, Permanent Secretary of the American Association for the Advancement of Science.

scholars through grants-in-aid and research fellowships as shown in the following tabulation:²⁴

Year	Number of grants-in-aid	Value "	Number of research fellowships appointed	Receipts of the council
1	2	3	4	5
1931.....	37	\$18,300	14	\$245,822.15
1932.....	38	19,000	14	310,712.00
1933.....	41	18,890	16	237,907.51
1934.....	50	22,760	12	283,894.40
1935.....	43	21,500	14	309,818.87
1936.....	23	7,600	.....	283,274.05

The council has suspended its support of post-doctoral research fellowships, the last having been given in 1936. In place of this, the council has constituted a system of study-aids for the training of research personnel. This aid may be given to the individual in any stage of the doctoral period of training as well as the post-doctoral. It is expected that this aid will supplement the usual university graduate-school fellowships.

In 1936, 14 of these aids were awarded on the recommendation of the advisory committees of different fields of study.

(3) *The National Research Council.*—The National Research Council has for its main purpose the promotion and cooperative coordination of scientific research rather than the actual conduct of research under its direction, although the council has not hesitated to assume the responsibility of carrying on a number of important specific projects of investigation. The membership of the council includes, in addition to professional scientific men, a representation of men of affairs and businessmen interested in industry and engineering who recognize the importance of fundamental or "pure" science on which applied science depends. "The actual membership of the council appointed by the president of the National Academy of Sciences, 282 persons, is chiefly composed of accredited representatives of 77 national scientific and technical societies nominated directly by these societies. Constant and stimulating contact with the colleges and universities of the country is maintained, as also with the Government's various scientific bureaus." The council also represents in this country the International Research Council.²⁵

The following table shows the amounts and percentages of money spent for research and other activities of the council for the years 1930-31 through 1934-35.²⁶

²⁴Based on Summary of Activities of the American Council of Learned Societies for the years 1931, 1932, 1933, 1934, 1935, and other material furnished by Waldo G. Leland, permanent secretary of the A. C. L. S.

²⁵Report of the National Research Council for the year 1930-31. Washington, U. S. Government Printing Office, 1932. P. 1.

²⁶Based on Reports of the National Research Council for the years 1930-31, 1931-32, 1932-33, 1933-34, 1934-35. Washington, U. S. Government Printing Office. Data furnished by Albert L. Barrows, executive secretary of the National Research Council.

Year	Spent for—				Spent in aiding affiliated organizations	
	Research fellowships		Designated projects		Amount	Percent
	Amount	Percent	Amount	Percent		
1	2	3	4	5	6	7
1930-31.....	\$365,542.78	36.4	\$364,673.63	36.3	\$108,032.79	10.7
1931-32.....	377,130.45	40.0	323,038.98	34.7	79,977.43	8.5
1932-33.....	313,904.70	37.7	286,743.45	34.4	89,224.44	10.7
1933-34.....	360,238.74	44.4	240,775.48	29.7	112,770.61	13.9
1934-35.....	226,368.84	33.8	228,291.97	34.0	119,721.96	17.9

(4) *The Social Science Research Council.*—The Social Science Research Council had its origin in 1921 in the American Political Science Association. Among the purposes the Council had in mind were the giving of a larger opportunity to students of Government in carrying on a fundamental type of research and in publishing and making public the results of such research.

The Social Science Research Council includes in its membership the American Economic Association, the American Statistical Association, the American Psychological Association, the American Anthropological Association, the American Political Science Association, the American Historical Association, and the American Sociological Society.

The council has been the custodian of large grants which have been used for surveys and the planning of research publications of original investigations. It also administers grants-in-aid to individuals.

In 1930-31 there were 36 advisory project committees cooperating with the committee on problems and policies. Emphasis has been laid on the promotion of cooperative projects.

In 1929-30 the objectives of the council were more adequately considered, and seven objectives were listed:

I. Improvement of research organization; II. Development of research personnel; III. Discovery, enlargement, improvement, and preservation of research materials; IV. Improvement of research methods; V. Improvements of facilities for dissemination of the materials, methods, and results of research investigations; VI. Extension of the bounds of knowledge of direct methods of facilitating the carrying out of specific research projects; VII. Enhancement of public appreciation of the significance of the social sciences.²⁷

The Social Science Research Council expended the following sums for investigations in social science for the years 1931 to 1935, inclusive, as indicated herewith.

1931.....	\$494,792.85
1932.....	422,653.91
1933.....	487,343.64
1934.....	439,832.89
1935.....	353,410.18

²⁷ Annual Report. New York, N. Y. The Social Science Research Council, 1930-31. p. 62.

TABLE 6.—*Summary of fellowships and grants-in-aid of the Social Science Research Council*¹

Year	Research fellowships in universities	Southern fellowships	Fellowships in agriculture, economics, and rural sociology	Grants-in-aid to research students	Southern grants-in-aid
1	2	3	4	5	6
1930-31.....	30	26	24	40	.....
1931-32.....	25	19	20	34	9
1932-33.....	31	17	22	41	17
1933-34.....	18	.....	.....	43	.....
1934-35.....	16	.....	.....	46	.....
1935-36 ¹	15	.....	.....	49	.....

¹ Including renewals or extensions.

² Predoctoral field fellowships, 21; fellowships for graduate study, 8.

The number of research fellowships in universities shows a marked decline since 1932-33, but the number of grants-in-aid to research students has increased.

View of Social Science Research Council on research in colleges.—There is an impression in some quarters that a fundamental cleavage exists between the interests of research and the interests of good teaching, particularly on the college level. There is no denying that, under the guise of devotion to research, serious abuses of the teacher's responsibilities have in some cases occurred; and it is, of course, no service to research to blunt the interest of the oncoming generation of social science investigators by dull and perfunctory hours in the classroom. The council maintains, however, that even on the college level this conflict between teaching and research is more apparent than real; that, in fact, the best teaching tends to come from minds engaged in stimulating first-hand contact with significant research problems.

The council has accordingly passed the following resolution: The Social Science Research Council is thoroughly in accord with the view that the primary functions of the American college relate to teaching rather than to research, but the council is deeply concerned nonetheless with the policies under which American collegiate education is being conducted.

Improvement of college teaching in the social services bears directly upon the council's interest on at least two points. In the first place, more general understanding among college graduates of the complexities of social life will promote the development of the sympathetic and enlightened public opinion which constitutes an important conditioning factor in many lines of social research. In the second place, better undergraduate instruction in the social sciences will contribute in important ways to the development of the larger body of competent research personnel upon which effective future presentation of social inquiry so largely depends.

It is because the council is so vitally interested in the quality of undergraduate instruction in the social sciences that it cannot be indifferent to the wise and deliberate cultivation of research activities among members of the collegiate teaching faculties. From some points of view, teaching and research are conflicting objectives; certainly, either may become so engrossing an interest as to result in the manifest neglect of the other. But from a different point of view, teaching and research are inseparably joined. Teaching is unlikely to remain vital and sound over the years unless the teacher not only keeps abreast of his subject but

maintains a modest program of research or creative work. Such a program need not issue in imposing monographs nor in works of outstanding authority; but tangible evidence of intellectual growth is indispensable. Research opportunities exist close at hand in every community. Encouragement of research within appropriate limits is an essential condition for the maintenance of collegiate teaching efficiency.²⁸

Possession of a decade of invaluable experience in coping with the most fundamental strategic problems involved is the attempt to advance the frontiers of our understanding of man in his complex social relations. Out of that experience have come conclusions which to the Council appear incontrovertible.

Of these conclusions, the first is that no social fact, policy, or act stands alone. All are interrelated parts of a close-knit web of human intercourse. Whatever point may be selected as a focus of attention is but a center of widely ramifying relationships.

A second conclusion is that social questions require informed consideration in all their important aspects. It is essential to bring to bear on any social problem the pertinent knowledge, skills, and viewpoints of different sciences in their richest variety.

A third conclusion is that while existing knowledge, techniques, and personnel may be drawn on at any time for their potential contribution to immediate public problems, the primary need in the social studies is the continued development of scientific resources, of scientific quality, of ways of working that produce more exact, more certain, and more useful knowledge.²⁹

(5) *The Agricultural Experiment Stations.*—The Office of Experiment Stations of the United States Department of Agriculture conducts a program of agricultural research on a Nation-wide basis in the several States and in our insular possessions. This research is conducted in 54 different stations.

The income of these stations is shown for the years 1930-31 to 1934-35, inclusive.³⁰

Year	Income from—		Total income
	States and other sources	Federal Government	
1930-31.....	\$13,466,082.07	\$4,340,000	\$17,806,082.07
1931-32.....	12,658,133.83	4,587,030	17,245,163.83
1932-33.....	11,114,072.98	4,462,560	15,576,632.98
1933-34.....	9,757,482.19	4,430,973	14,188,455.19
1934-35.....	10,615,325.84	4,456,936	15,072,261.84

In 1935, 7,000 research projects were in progress and included studies in the fields of farming and rural living, including land use and conservation; crop adjustment; economical production, distribution, marketing, and use of plant and animal products, and improvement in the quality of such products; protection against animal and plant diseases, insects, and other pests; tenancy, taxation, and other matters

²⁸ Social Science Research Council, Annual Report, 1929-30, pp. 21-22.

²⁹ Ibid., 1933-34, p. 2.

³⁰ Based upon the Reports of the Agricultural Experiment Stations, United States Department of Agriculture, for the years 1931 to 1935, inclusive.

affecting the efficiency of farm business management; and the betterment of the rural home and rural life. There is evidence of increasing emphasis on efficient and remunerative production and on the economic and social aspects of rural life.

These projects are a great source of stimulation to the land-grant colleges and universities with which the stations are affiliated and bring scientific research in these into close grips with the reality of national service.³¹

(6) *The American Council on Education.*—The American Council on Education, now in its nineteenth year of existence, has carried on an extensive program of research and counsel relating to higher education.³² In October 1935, it expanded its program of interests to include the primary and secondary schools of the country.

The council among other services has made valuable contributions to higher education through its studies of the measurement of student achievement. It has also given much attention to the subject of personnel administration and it has prepared Cumulative Record Cards for elementary, secondary, and college students which are now widely used.

The council, on April 29, 1936, made public the Report of the Committee on Review of the Testing Movement.

Very useful are the services rendered by the council through the *Educational Record* which every quarter keeps its constituency in touch with developments in those fields of special interest to its members, and through the volume *American Universities and Colleges*. The latter gives an unusually adequate picture of the status of higher education in general, besides giving characteristic data for all approved colleges and universities.

During the period included in this report, the American Council has spent, on the whole, an increasing amount of money for the administration of its general program as well as for special projects involving a large amount of research. The table following shows the use of its fund between 1930-31 and 1935-36.

Year	Amounts spent primarily for administration	Amounts set aside for special projects	Year	Amounts spent primarily for administration	Amounts set aside for special projects
1930-31.....	\$45,088.87	119,962.72	1933-34.....	\$42,779.13	\$184,469.64
1931-32.....	53,762.38	132,778.34	1934-35.....	58,979.89	348,465.31
1932-33.....	47,328.00	106,408.07	1935-36.....	81,057.26	397,372.66

(7) *The Carnegie Foundation for the Advancement of Teaching.*—Among the projects of the Carnegie Foundation for the Advancement of Teaching that have been carried out during the past 5 years that

³¹ Report on the Agricultural Experiment Station, 1935. U. S. Department of Agriculture, pp. 8, 12.

³² The American Council on Education, History and Activities, Third Edition, November 1936. Washington, D. C.

relate to higher education are the following: A Study of Art, An Inquiry into the History of Units and Credits and Related Matters, the Cooperative Study of the Relation of Secondary and Higher Education in Pennsylvania. A study of graduate instruction through certain unitary assignments has recently been authorized.

The Foundation reports the completion of nine researches and projects which it has sponsored. The results of six of these studies have been made available in published form and include the following: A handbook on examinations entitled, *The Construction and Use of Achievement Examinations*; research in the higher mental process entitled, *Education as Cultivation of the Higher Mental Processes*; appreciation of pictures entitled, *How People Look at Pictures*; the support of a research conference on problems, techniques, and results of research in higher education in various universities; the support of the National Conference of Bar Examiners and the National Bar Examiner; a study of *Correspondence Study in Rural High Schools*; a study of *Factors in the Failure and Success of College Teachers*; a study of the *Colleges and the Courts*; and a study of *Surreys of Higher Education*.

Many other projects of interest directly or indirectly to higher education are being carried out by the Foundation.

TABLE 7.—Amounts spent for educational research by the Carnegie Foundation and by the Carnegie Corporation for Educational Research, 1929-30 to 1934-35

Year	Spent by the Carnegie Foundation for the Advancement of Teaching	Spent for joint-educational projects by the Carnegie Foundation and the Carnegie Corporation of New York	Total
1929-30.....	\$115,825.97	\$9,000.00	\$124,825.97
1930-31.....	68,593.77	54,000.00	122,593.77
1931-32.....	76,438.77	126,000.00	202,438.77
1932-33.....	55,400.61	106,250.00	161,650.61
1933-34.....	62,108.67	144,350.00	206,458.17
1934-35.....	90,224.69	112,700.00	202,924.69

Notwithstanding the large drop in the amount spent by the Foundation in 1930-31 compared with the year preceding, and notwithstanding some fluctuation in the amounts spent, the year 1934-35 shows a remarkable increase over the last 5 years.³³

(8) *The engineering experiment stations.*—Research in engineering has been carried on for a great many years in the land-grant colleges and universities. The larger part of this research has been conducted in connection with the engineering experiment stations of which there are 38 (1934-35).

The total number of projects reported in 1934-35 was 389. The total amount of money spent on this work amounted to \$516,291, or

³³ The Carnegie Foundation for the Advancement of Teaching. Thirty-first Annual Report, 1936. New York.

\$6,837 less than for the preceding year. Of the \$516,291, \$367,256 came from university funds, and \$149,335 from other sources.

The staffs included 125 full-time and 428 part-time workers. Sixty-six publications were reported between November 1, 1933, and November 1, 1934, and prior to that time the total was 1,076.³⁴

A certain amount of engineering research was carried on at 11 land-grant institutions that have no formally established engineering experiment stations. At these stations, \$33,900 was spent in 1934-35 in connection with 46 projects. This amount was \$25,000 less than the amount spent the year before. Fourteen land-grant institutions also conduct some engineering research in the agricultural experiment stations. The amount spent in 1934-35 on 93 projects was \$76,455, an increase of \$5,624 over the year preceding.³⁵

³⁴ Proceedings of the 48th annual convention of the Association of Land-Grant Colleges and Universities, November 1934. Published 1935. Pp. 201-203.

³⁵ Ibid, 204-205.

Section VIII

PROFESSIONAL EDUCATION

1. INTRODUCTORY

DURING the period covered by this study professional education has reacted to the depression in a variety of ways. Schools of theology, dentistry, pharmacy, and institutions for the training of teachers show losses in enrollments generally slight, while small increases are shown in the enrollments in medical schools and law schools.

One of the most interesting developments is the attention given to standardization and to the general improvement of the professions along broader educational lines. This is shown particularly in the fields of theology, medicine, dentistry, agriculture, home economics, and engineering. Other evidences show that the professions have taken advantage of the economic crisis to make important adjustments.

It appears that professional education like liberal arts education has suffered somewhat from the evils of undue specialization. The professions are coming more and more to see that while specialized training is highly important, it loses much of its value and efficiency unless the general nature of the persons with whom professionals deal is more fully understood and a sympathetic understanding of human personality made the basis of further specialized effort.

Such a view is noted in the following statement of Richard E. Scammon, dean of medical sciences and professor of anatomy of the University of Minnesota, in speaking to the American Association of Dental Schools:

It seems to me the third discipline we need is the social discipline. We need it pretty badly in the professions because we live in a new world of interrelation. A recent writer summarized the situation very well when he said: "While man's relationship with nature is bathed in the clearer light of science, his social relationships, his relationships with his fellow men are still shrouded in obscurity and mysticism. Man, in a word, has not really conquered his environment at all. He has only conquered the nonhuman part of his environment. He is still, in the main, as ignorant as any terrified savage of his relationship to his fellow men, and not until he has made this second conquest will he be able to do without the comforting but questionable illusions of life." It seems to me that the social discipline in the health sciences spreads not only into the preparation but into the professional attitude as well. Think of the range of psychological and social make-ups

your patients present to you, and the need of social knowledge and background in dealing with them.¹

Other important testimony goes to show that professional education in many fields is coming to consider the importance of the larger objectives and purposes, and this is further shown by the tendency to give increased emphasis to fundamental studies, such as humanistics and the basic sciences as illustrated in a number of the following sections.

2. THEOLOGY

In 1934 there were listed 224 theological schools and theological seminaries in this country,² but only slightly more than half of these report to the Office of Education, and these do not include a large number of bible institutes and theological colleges.

a. Enrollments in Theological Schools

The figures given herewith refer to theological institutions of all types that have reported to the Office of Education.

Year	Number of schools	Undergraduate enrollments			Degrees
		Total	Men	Women	
1	2	3	4	5	6
1929-30.....	159	13,045	12,074	971	1,251
1931-32.....	133	11,060	10,304	756	1,850
1933-34.....	121	10,087	9,327	760	1,637

According to the above table, there has been a decided falling off in the number of theological schools. Between 1929-30 and 1933-34, 38 have gone out of existence or failed to report due to straitened circumstances or extremely small enrollments. The enrollments show a corresponding loss, although the number of degrees granted in 1934 indicate, on the whole, a considerable increase; a large jump is indicated between 1930 and 1932, and a small decline between 1932 and 1934.

As to the figures given in this table, attention is called to the fact that it contains both Catholic and non-Catholic institutions as far as number of institutions and enrollments are concerned. The number of degrees, however, does not include the non-degree graduates from Catholic and other institutions.

¹ Proceedings of the Eleventh Annual Meeting of the American Association of Dental Schools, March 1934. Pub. 1935. pp. 136-137.

² May, Mark A. The Education of American Ministers. Vol. 1. Institute of Social and Religious Research, 1934. New York.

b. *Protestant Theological Schools*

Protestant theological education has developed four types of schools, namely, the bible school or institute, the theological college, the department or school of theology, which is a part of a university or college, and the theological seminary.³

(1) *Standardization in theological schools.*—Denominational individualism has kept theological education from the influences of the standardization movement which has prevailed in nearly every field of higher and professional education during the past 25 years. Influences have been at work, however, which have brought a large group of theological institutions together for the consideration of mutual educational problems.

Barker states that,

There are several factors now operating to enforce standards: First, the tendency of seminaries, formerly independent, to affiliate themselves with colleges and universities; second, the tendency to grade the curriculum upward toward postgraduate instruction; third, a desire to make the various theological degrees represent standard types of professional training.⁴

The Methodist Episcopal Church since 1925 has maintained a body of standards relating to its theological schools and seminaries.

In 1924, a comprehensive study of theological education was made by Robert L. Kelly.⁵ The interest engendered by this study was doubtless to a large extent responsible for the exhaustive and critical survey of theological institutions made under the direction of Mark A. May, already referred to. The results of this survey were published in 1934 in the 4-volume work entitled *The Education of American Ministers*. This survey led to the reorganization of the existing Conference on Theological Schools into the American Association of Theological Schools. In 1936, the committee on standards of admission reported on the questions of the—

Preseminary curriculum, defining desirable fields and units of preparatory college work; with entrance standards concerned with accredited and unaccredited colleges, conformity to preseminary requirements and the like; and with personality and aptitudes, declaring against the use of intelligence tests, but at the same time expressing concern that the most capable persons be trained.

According to the study on the *Education of American Ministers*, which includes 61 of the larger and better organized institutions, we find the following distribution of enrollments of college and non-college students for 1929-30.

³Barker, Earl. Accreditation of Theological Colleges. *Peabody Journal of Education*, 14: 170, January 1937.

⁴Ibid., pp. 170-171.

⁵Kelly, Robert Lincoln, *Theological Education in America*. New York, George H. Doran Co., 1924.

	College	Noncollege	Total
Men.....	4,804	1,613	6,417
Women.....	511	322	833
Total.....	5,315	1,935	7,250

A comparison of the totals of this table and the one on page 66 seems to indicate that there are nearly 3,000 theological students who are studying in relatively small schools.

The committee on accrediting institutions set up a commission on accrediting theological seminaries and theological colleges. This committee has already set up those standards by which it is expected that the commission will revise its list of accredited schools.

c. Catholic Seminaries ⁶

There are two kinds of Catholic seminaries. The major seminary trains students in the sacred sciences in preparation for ordination. The preparatory or minor seminaries prepare young men for entrance to the major seminaries.

In 1932, the number of major seminaries was 93, but in 1934 only 88 were reported. Of the latter, 22 trained secular priests, 55 trained for religious orders, and 11 trained students for both types of work.

(1) *Courses of study.*—The length of the curriculum of the diocesan seminary was definitely fixed by the Third Plenary Council of Baltimore: "In all seminaries the course of study shall embrace not fewer than 6 years, 2 of which shall be devoted to the study of philosophy and 4 to that of theology."

An examination of the reports received from the 88 major seminaries in 1934 shows that 55 have departments of philosophy and theology, 19 have only a department of theology, and 14 have only a department of philosophy. Of those that have a philosophy department, 61 give the full 4-year course, 4 give a longer course, and 9 do not give the complete course. . . . In seminaries that have a department of philosophy, 53 give a 2-year course and 16 give a longer course. The course in theology is then pursued.

(2) *The survey of the curriculum of the major seminary.*—In 1935, a survey was published showing the curricular offerings of 30 major seminaries as relate to the training of the diocesan clergy in the United States. This survey analyzes the relative apportioning of time of the subjects of the curriculum with the purpose of developing "a plan for the unification of courses into a minimum program."⁷

⁶ Based on *Major Seminaries, Preparatory Seminaries* published by the National Catholic Welfare Conference, Department of Education, 1312 Massachusetts Ave., Washington, D. C. 1936.

⁷ *Ibid.*

(3) *Instructional staff.*—The total number of instructors in the 88 major seminaries was given at 900 in 1934, an increase of 17 over 1932. Of these, 644 belonged to the religious-order clergy, 227 to the secular clergy, and 29 were lay teachers.

(4) *Student body.*—The total number of students enrolled in the seminaries was 7,800 in 1934, or 73 more than in 1932. Of these, 3,222 were training for the religious orders, and 4,578 for the secular clergy.

(5) *Graduates.*—The number of graduates in 1934 in the major seminaries was 1,305. The number receiving the degree of bachelor of arts was 374; master of arts, 63; licentiate in philosophy, 23; doctor of philosophy, 2; bachelor of divinity, 77; lector of sacred theology, 43; other degrees, not designated, 100; the remaining institutions are unclassified.

(6) *Preparatory seminaries.*—The curriculum of the preparatory seminaries is classical and usually includes 4 years of high school and the first 2 years of the college classical course. There were in 1934, 81 preparatory seminaries. Of these, 35 were accredited by recognized accrediting associations or by certain Catholic universities.⁷

d. *Courses in Bible and Religion in American Universities and Colleges*

In 1935 a national survey was made of courses in Bible and religion offered by universities and colleges in the United States. Eight hundred and twenty-eight institutions participated, including the following types: State and municipal institutions, 116; State teachers colleges, 152; independent institutions, 83; Protestant institutions, 352; and Catholic institutions, 125. The survey gives information regarding admission and transfer credits in Bible and religion as well as the relation of these subjects to graduation requirements. The types of courses offered are enumerated and classified. Other topics include, Chapel and Assembly Periods, and the Status of the Staff That Teach Bible and Religion.⁸

3. LAW

There are now in the United States 195 law schools. Of these, 88 are approved by the American Bar Association, and 81 of these are members of the Association of American Law Schools. Figures for 1936, although not quite complete, indicate that there is no change in the number of law schools.

⁷ *Ibid.*

⁸ Wickey, Gould, and Eckhart, Ruth A. *A National Survey of Courses in Bible and Religion in American Universities and Colleges.* Reprinted from *Christian Education*, October 1936.

a. Enrollments

The number of approved law schools in the United States was 81 in 1930-31; in 1934-35, this number increased to 88. The enrollments in approved schools was 17,483 in 1930-31 and reached 20,430 in 1934-35, showing an increase of 2,947.

The number of unapproved law schools was 101 in 1930-31; in 1934-35, it reached 107. The enrollments for each of these years, respectively, was 21,934 and 21,490, showing a loss of 444.

The total number of law schools was 182 in 1930-31; in 1934-35, it reached 195. The enrollments for 1930-31, were 39,417, and in 1934-35 there were 41,920, or an increase of 2,503.

Statistics further show that the proportion of approved part-time or mixed-law schools is somewhat greater in 1934-35 than in the year 1930-31, while there is only a slight increase in the proportion of full-time schools of law, either approved or unapproved, for the corresponding periods.

It is also worthy to note that the total enrollments in approved law schools in 1930-31 was 17,483 while total enrollments in unapproved law schools was 21,934. In 1934-35, the situation for the approved law schools is somewhat better. The enrollments in the latter group reached 20,430 while the enrollments of unapproved law schools declined to 20,490.⁹

b. Tendencies in Legal Education

Legal education as other forms of education has been influenced by changing social and economic conditions generated by the World War and the economic depression. Some of the present-day tendencies, as indicated by Dean Roscoe Pound of Harvard University Law School., are as follows:¹⁰

There is a significant trend in the direction of experiment; increased enrollments and instability in the subject-matter taught have unsettled the accepted standard methods of university law schools of a generation ago. More scientific business training is being called for; pressure for increased research toward the development of the law has been increasingly exerted; law is to be studied as one of the social sciences or should be associated with these in the teaching program; the standard curriculum and the whole content of the course of study are being subjected to scrutiny and overhauling.

Students now come to law school with ideas and methods of study which do not readily fit into the ideas and methods by which instruction in law had been carried on.

One pressing problem of exceptional difficulty is to provide some substitute for the old-time contact of student with the leaders of the profession during his formative years, and the handing down in this way of the traditional ideals and

⁹ Annual Review of Legal Education for 1935. American Bar Association, Chicago, Ill., p. 64.

¹⁰ This section is adapted from Present Tendencies in Legal Education by Roscoe Pound in Annual Review of Legal Education, 1935. Published by the American Bar Association.

the professional standards of the bar, which were an outstanding achievement of the Inns of Court in the Middle Ages and were the best features of the apprentice system which prevailed in England from the seventeenth to the nineteenth century and developed in America along with the beginning of our law. . . .

A real danger to the most effective legal education is developing incidentally in the uncoordinated endeavor to improve the requirements of admission to the profession. Not infrequently bar examiners not only prescribe the subjects of examination but prescribe that the candidate must have had formal instruction in those subjects before being admitted to the profession.

4. MEDICINE

a. Statistics of Medical Schools

In 1934-35, 7,887 licenses to practice were issued to doctors of medicine in this country. Of these, 5,707 licenses were issued on the basis of examination, and 2,180 through reciprocity and endorsement. These numbers do not represent 7,887 individuals, as a number of individuals were licensed in more than one State.

In 1934-35, a total of 5,500 were added to the medical profession, or 49 more than for 1933-34.

TABLE 8.—Students and graduates enrolled in medical schools, 1930-31 to 1935-36

Year	Enrollments			Year	Enrollments		
	Colleges	Students	Graduates		Colleges	Students	Graduates
1930-31	76	21,892	4,735	1933-34	77	22,799	5,038
1931-32	76	22,135	4,936	1934-35	77	22,888	5,101
1932-33	77	24,466	4,895	1935-36	77	22,564	5,183

The statistics given in the table above show the addition of one medical school during the 6 years indicated. Enrollments of medical students have remained remarkably constant but there has been a gradual increase in the number who have graduated.¹¹

b. Tendencies in Medical Education

In the year 1933, the Council on Medical Education and Hospitals of the American Medical Association laid plans for a resurvey of medical schools in the United States and Canada. The cooperation of the Association of American Medical Colleges and the Federation of State Medical Boards was obtained by the council in this survey.

In connection with this survey, a special committee has been assigned the duty of reappraising the aims and methods of medical teaching.

¹¹ Based on the annual educational numbers of the Journal of the American Medical Association for the years given. Also Medical Licensure Statistics, April 25, 1936. A. M. A.

The report of the council for 1935-36 shows that the visitation of the medical schools in connection with the survey has been completed. Preliminary observations appear to indicate that many schools are overcrowded and understaffed.

Speaking generally, the problem of securing clinical facilities adequate in kind and amount, under university control, so far as the appointment of clinical teachers is concerned has not been satisfactorily solved. Correlation of the training and experience of teachers with the degree of responsibility assumed has still to be achieved. The selection of students on a qualitative basis rather than a purely quantitative basis, is a problem calling for the best efforts of admission authorities.

Improvement of medical libraries, and greater encouragement of medical research is pointed out. The didactic methods appear to be used to excess in teaching clinical subjects. The raising of salaries in the lower brackets is recommended, and greater financial support of medical education is essential if superior medical education is to result.

For 1936-37, 45 of the 77 medical schools of this country have entrance requirements in excess of the minimum of 2 years of general college education.

Four require a degree, 36 require 3 years, 1 requires 4 years, and 3 schools will admit students with 3 years of college work if the baccalaureate degree is conferred in absentia at the end of the first year in medicine, and 1 school has a requirement equivalent to 2½ years.¹²

5. DENTISTRY

a. *Statistics of Dental Schools*

In 1931, there were 43 dental schools according to the Dental Educational Survey.¹³ In 1935-36, 39 dental schools were reported by the Dental Educational Council.¹⁴

During the fall of 1931, a total of 8,312 students were admitted to dental colleges, including all regular classes. Of these, 8,054 were undergraduate students, 81 were graduate students, and 177 were post-graduate students (advanced students taking special unit courses not leading to degree). In 1930-31 first degrees in dentistry were conferred on 1,915 students;¹⁵ in 1935-36, 1,736 received first degrees in dentistry—of these, 16 were women.

The enrollment in the 39 dental schools for 1935-36 was 7,369, of whom 63 were Negroes. Of the 7,306 white students, 7,241 were men, and 65 were women.¹⁴

In the year 1930-31, of 2,358 first-year students, 783 entered dental schools with 1 year of college preparation, 944 with 2 years, 350 with 3

¹² Report for 1935-36, p. 661.

¹³ American Association of Dental Schools. Survey of the Dental Curriculum. Progress Reports of the Curriculum Survey Committee submitted to the American Association of Dental Schools, Mar. 23, 1932.

¹⁴ Blaich, L. E. Dentistry as a Career, from Bulletin of the Chicago Dental Society, June 11-18, 1936, pp. 18-20.

years, 257 with 4 years, and 24 with graduate work in arts and sciences.¹³ There are some dental schools at this time (1936) that admit students with only 1 year of general college preparation. In 1937, however, all dental schools will require 2 years of college work for admission.¹⁴

b. *Dental Survey*

The evolution of dentistry from a handicraft into a full-fledged profession with the major objective of health service is one of the most interesting developments in higher education. Joining itself closely to medicine in its service of health, dentistry has laid its foundations in the sciences, and more recently has emphasized the importance of a broad liberal education as an essential part of the dentist's training.

Dental Education received great benefit from the survey made by Dr. William J. Gies, which was completed in 1926. More recently, a comprehensive survey of the dental curriculum was begun in 1930 with the assistance of the Carnegie Corporation of New York. Altogether, \$30,000 was appropriated for this purpose. The work of the survey was completed in 1935.¹⁵ The main results of this study are found in the Report of the Curriculum Survey Committee of the American Association of Dental Schools entitled, *A Course of Study in Dentistry*.¹⁶

6. PHARMACY

a. *Statistics of Schools of Pharmacy*

There are at the present time 71 colleges of pharmacy in the United States. Of these, 55 are members of the American Association of Colleges of Pharmacy. Through the influence of this association and the American Council on Pharmaceutical Education, standards have been raised. In schools that are members of the American Association of Colleges of Pharmacy, short courses have been eliminated, and since 1932 the minimum requirement of a 4-year course has been effective. Most of the non-member schools give a 3-year course, although some are offering a 4-year program.

Year	Enrollment	Degrees
1930	10,906	2,599
1932	9,782	2,391
1934	7,813	1,073

¹³ American Association of Dental Schools. Survey of the Dental Curriculum. Progress Reports of the Curriculum Survey Committee submitted to the American Association of Dental Schools, Mar. 23, 1932.

¹⁴ Blauch, L. E. Dentistry as a Career, from Bulletin of the Chicago Dental Society, June 11-18, 1936, pp. 18-20.

¹⁵ Blauch, L. E. Trends and Problems in Dental Education. Journal of Dental Education, 1: 63-71, December 1936.

¹⁶ Course of Study in Dentistry. Curriculum Survey Committee, American Association of Dental Schools, 311 East Chicago Avenue, Chicago, Ill., 1935.

The figures for the 4-year period show a decided loss in the total enrollments in pharmacy and also a larger proportionate loss in the number of those who received degrees in this subject.

In view of the increasing demand for advanced study, more schools are offering graduate work in pharmacy than in the past.

The following figures of the American Association of Colleges of Pharmacy are of interest because they refer to the number of entering students and to the number graduating, in the colleges that are members of the association (55 in number):¹⁷

Year	Entering students				Graduating classes		
	Total	High-school graduates	Special students	Number with previous college training	Number graduating	Advanced degrees granted	
						M. S.	Ph. D.
1	2	3	4	5	6	7	8
1930-31.....	2,779	2,758	21	515	2,142		
1931-32.....	2,788	2,754	34	517	1,934	45	5
1932-33.....	1,780	1,773	7	418	1,639	41	11
1933-34.....	2,174	2,169	15	600	1,641	27	11
1934-35.....	1,902	1,894	8	500			
1935-36.....	2,347	2,330	17	669	1,066	11	15

The data on entering classes show a very heavy drop in beginning enrollments in 1932-33. There was a considerable gain for 1933-34 with a small drop for 1934-35, and a large increase for 1935-36.

The vast majority of these entrants are high-school graduates and the number of entrants that also have had previous college training shows that the proportion of these has been increasing from about one in five in 1930-31 to one in three in 1935-36.

The number of graduates has dropped 50 percent during the 6-year period indicated. The number of M. S. degrees has decreased by three-fourths and the number of Ph. D.'s has tripled during the same period.

7. NURSING

Since 1921, there has been an increasing interest in the advancement of nursing education, particularly on the college level. A number of important studies have been made and organizations established to help raise and maintain suitable standards of nursing education.

In 1933, the Association of Collegiate Schools of Nursing was organized and a year later stated its objectives as follows:

¹⁷ Letter to author Feb. 11, 1937, from Zada M. Cooper, Sec.-Treas., American Association of Colleges of Pharmacy.

To develop nursing education on a professional and collegiate level,
To promote and strengthen relationships between schools of nursing and institutions of higher education,
To promote study and experimentation in nursing service and nursing education.

In 1935, the National League of Nursing compiled a list of accredited schools, 245 in number. In 64 of these schools, 70 curricula were found leading to degrees and of these 36 were established since 1930. The number of students now enrolled in degree programs is 1,832. Of the 70 curricula, two led to the master's degree and the others to the bachelor's degree.¹⁸

8. ENGINEERING

a. Enrollments

Statistics of engineering enrollments show the negative influence of the period of the depression. Between 1925-26 and 1930-31, we find a great increase in engineering enrollments. In 1925-26, 54,337 were enrolled in 143 engineering schools. In 1930-31, 73,386 were enrolled in 145 schools. Between 1927-28 and 1930-31, there was an increase of 10,363, showing the extraordinary interest in engineering. Between 1930-31 and 1932-33, the total enrollment suddenly dropped to 63,119, or a loss of 10,267, practically the same as the gain of the 2 years preceding.¹⁹ Present-day statistics appear to indicate that enrollments are increasing on a more normal basis, the reports for 1934 showing 65,406 engineering students.

b. Engineering Degrees

In 1929-30 the total number of degrees granted in engineering was reported at 10,535. Of these, 9,817 were first degrees and 718 were graduate degrees. The number of engineering degrees reported in 1934 was 12,375.

c. Advancement of Engineering Education

The past 12 years have witnessed extraordinary activity in the field of engineering education. In 1924, the Society for the Promotion of Engineering Education under a grant from the Carnegie Foundation for the Advancement of Teaching undertook a major survey of engineering education including practically all the engineering schools

¹⁸ Petry, Lucile. Basic Professional Curricula in Nursing Leading to Degrees. *American Journal of Nursing*, 37: 2-5. March 1937.

¹⁹ Based upon special study of engineering enrollments reported in *Journal of Engineering Education*, November 1933. p 88.

of the country. This survey was completed in 1929. In 1931, a supplementary survey of these schools was made in cooperation with the Office of Education. This helped to evaluate the practical results of the earlier survey.

In 1931 the Society for the Promotion of Engineering Education began preliminary studies of graduate work in engineering under the direction of a committee of which Dean Dexter S. Kimball, of the Engineering School of Cornell University, was chairman. This study led to a Nation-wide survey of graduate work in engineering which was begun in 1934 and the final results were published in 1936 in a bulletin entitled, *Graduate Work in Engineering in Universities and Colleges in the United States*.²⁰

In view of the serious results of the depression on the employment of engineers, a survey of the engineering profession was made in 1935 by the Bureau of Labor Statistics of the United States Department of Labor, under the direction of Isador Lubin, Commissioner of Labor Statistics, at the request of the American Engineering Council.

This study was based on reports made from 52,589 professional engineers throughout the country.

Some of the more significant facts and findings are quoted or abstracted as follows:²¹

. . . it may now be said that at the end of 1932 more than one-tenth of the engineers were simultaneously unemployed, that at one time or the other between the beginning of 1930 and the end of 1934, more than one-third of the engineers had some period of unemployment, and that half of those who became unemployed were out of work for more than a year. There are, unfortunately, no comparable data for the other professions.

1. Between the end of 1929 and 1932, the percentage of engineers who were unemployed increased from 0.7 to 10.9. At the end of 1934 the percentage was 8.9.

2. At no time was direct relief extensive among engineers, but the development of work-relief programs after 1932 became an important factor. Although 10.9 percent of all engineers reporting were unemployed on December 31, 1932, less than one-fifteenth of those unemployed were on work relief. On December 31, 1934, 4 percent of all engineers reporting had work relief, i. e., almost half of the total number of engineers unemployed at that time.

3. The largest number unemployed at any one time was about 11 percent of the total, but more than a third of the engineers had some period of unemployment within the 5 years, 1930 to 1934.

4. Among those who became unemployed at some time during these 5 years, half were out of employment (except as they found work relief) for more than a year.

5. This experience with unemployment was common to all professional classes of engineers. In 1932 unemployment ranged from 10.1 percent among chemical and ceramic engineers to 11.6 percent among electrical engineers. In 1934 ap-

²⁰ U. S. Department of the Interior, Office of Education, Bulletin 1936, No. 8.

²¹ Unemployment in the Engineering Profession. By A. F. Hinricks, chief economist, and Andrew Frasef, Jr., of the Division of Wages, Hours, and Working Conditions. Monthly Labor Review, 44: 37-38, January 1937. See also the report of Commissioner Lubin before the forty-fourth annual meeting of the S. E. E. at Madison, Wis., June 26, 1936.

proximately 8 percent of the electrical, mechanical, and industrial and of the mining and metallurgical engineers were unemployed. The percentage of unemployment dropped most among chemical engineers, of whom 6.8 percent were unemployed in December 1934. There was a slight increase in unemployment among civil engineers from 1932 to 1934.

6. The most marked differences as regards unemployment are those found among the various age groups. The greatest frequency of unemployment was among those who attempted to enter the profession after 1929. Approximately half of them were unemployed at one time or another from 1930 to 1934. Older engineers, who were already professionally established prior to 1929, were less frequently unemployed, though even among those with 20 or more years of experience one-quarter had some unemployment.

7. When the older engineers became unemployed, however, unemployment lasted longer than it did with the younger engineers. Thus, the median period of unemployment for engineers graduating in 1925-29 was 12.1 months, whereas the median for those graduating prior to 1905 was 23.1 months.

d. *Ideals of Engineering Education*

Long before the economic crisis, industry as well as engineering education called attention to the importance of character and ideals in the engineering profession. It was shown by Dr. C. R. Mann, in his *Study of Engineering Education* published in 1918, "that several thousand employers made it a practice to give upward of a 75-percent weighting to those characteristics which fall broadly within the term 'character', and only 25 percent to the combined techniques and skills of the engineers."²² This emphasis on character has become increasingly important ever since the economic depression because the increasing lack of employment of engineers, and the competitive attitudes of employers have created "the spirit of discouragement and defeatism" which has been very prevalent among younger engineers and many of the older ones.²³

Having these conditions in mind, the Society for the Promotion of Engineering Education, at its forty-fourth annual meeting held at the University of Wisconsin, June 23-26, 1936, gave the greater part of the time of the general program to the discussion of the "Spiritual Adjustment of the Engineering Student." President Douglas S. Anderson pointed out that—

... the term spiritual adjustment, as here used in its broader sense, is intended to refer to all the influences which may be effective either objectively or subjectively in developing, in broadening and refining the students' qualities of mind and heart, as well as bringing him an abiding sense of social responsibility; qualities which it is recognized may be already inherent in his nature to a greater or less degree, acquired by heredity and previous environment.²⁴

²² Quoted by Gen. R. I. Rees in his address on the Maturing of the Engineer before the S. P. E. E., at Madison, Wis., Journal of the S. P. E. E., September 1936, p. 39

²³ From address of Daniel W. Mead, president, A. S. C. E., at the above-mentioned meeting. *Opus cit.*, p. 31.

²⁴ From his presidential address at the above-mentioned meeting. *Ibid.*, pp. 9-10.

9. AGRICULTURE

Agriculture on the college level is taught almost entirely in the 51 colleges of agriculture which are a part of the group known as land-grant colleges and universities. Agriculture is also taught in the 17 land-grant colleges for Negroes.

a. *Enrollments*

Enrollments in general agriculture in colleges primarily for whites according to the following table shows a slight decline from 1930 to 1934:

TABLE 9.—*Resident college enrollments in agriculture, not including forestry and veterinary medicine*

Year	51 land-grant colleges		Other non-land-grant institutions		Total		Grand total
	Under-graduate	Graduate	Under-graduate	Graduate	Under-graduate	Graduate	
1	2	3	4	5	6	7	8
1929-30.....	12,722						
1931-32.....	12,219	2,347	383		12,602	2,350	14,952
1933-34.....	11,469	1,829	139	(1) 3	11,548	1,829	13,377

¹ Included in 139.

It will be noted that of the total number enrolled in 1931-32, 386 were not enrolled in land-grant institutions. The proportion of undergraduate students to graduate students for the years indicated shows the following: 1931-32 undergraduates, 84 percent; graduate students, 16 percent; 1933-34 undergraduates, 86 percent; and graduate students, 14 percent.

b. *Degrees*

Notwithstanding the decrease in enrollments in agriculture, the number of degrees granted in that field has somewhat increased. In 1930, 1938 first degrees in agriculture were granted by the 51 white land-grant colleges; in 1932 this figure increased to 1,987; and in 1934 it reached 2,152. In 1932, 52 agricultural degrees were granted by non-land-grant schools.

c. *The Agricultural Curriculum*

According to a recent survey made under the direction of the committee on instruction in agriculture, home economics, and the mechanic arts of the association of land-grant colleges and universities, information was obtained showing significant trends.²⁵

²⁵ Proceedings of the 48th Annual Convention of the Association of Land-Grant Colleges and Universities, Washington, D. C., 1934.

It is generally recognized that agricultural colleges have made more adequate adjustments in their curricula to changing needs during the past 20 years than formerly. Among these adjustments the following are most noteworthy:

d. *Humanistics and Agriculture*

Of the 28 institutions included in this survey, 14 indicated that trends in agricultural curricula were toward humanistic and basic science courses as against the more distinctly technical courses; 9 institutions also gave affirmative replies with certain qualifications; and 2 indicated a negative answer.²⁶

e. *Specialization*

"The time when students make a choice of their fields of specialization varies considerably." Of 26 reporting, 15 reported that students select their special field within the general field of agriculture at the beginning of the junior year; 7 at the beginning of the sophomore year; 3 at the beginning of the freshman year; and 1 at the beginning of the senior year.

It was also indicated by nearly all the schools that—

... it is the purpose of the 4-year course in agriculture to graduate generally informed students with reasonable emphasis on some portion of the field rather than to graduate students with a relatively high degree of specialization in one or more phases of the general field.²⁷

A majority of these institutions believe there is a central core or irreducible minimum of technical subject matter which may rightfully be expected of any student graduating in agriculture. . . . But there is a distinct absence of uniformity of opinion as to what the subject matter of this minimum should be.

f. *Graduate Work*

Twenty-six of the twenty-eight institutions said they offered courses in agriculture designed especially for graduate credit.²⁷

The difference in subject matter content between graduate and undergraduate courses consists in having the former do more work in specialized subject matter and with assigned problems. Where both classes of students are enrolled in the same class the graduate student is required to do a higher quality of work and in some instances a special problem on the outside.

As to the differences in teaching methods there is less formal teaching done with graduate students. They are assigned problems and are required to make reports on such assignments. Graduate students meet their instructors in conferences more frequently than do undergraduate students, and since graduate students devote a considerable part of their time to special problems there appears to be less need for formal assignments when classes meet.

²⁶ Proceedings of the 48th Annual Convention of the Association of Land-Grant Colleges and Universities, Washington, D. C., 1934. p. 251.

²⁷ *Ibid.*, p. 272.

10. HOME ECONOMICS

a. *Statistics of Home Economics*

The great majority of students of college courses in home economics are found in the land-grant colleges. According to the following table, undergraduate enrollments in home economics have declined slightly between 1930 and 1934. In the table following, attention is called to the fact that figures showing graduate enrollments were not available for 1929-30. In 1931-32 and 1933-34, figures show the enrollments in home economics in land-grant colleges as well as in non-land-grant schools for both undergraduate and graduate students.

TABLE 10.—*Resident college enrollments in home economics*

Year	Land-grant colleges		Other institutions		Total		Grand total
	Under-graduate	Graduate	Under-graduate	Graduate	Under-graduate	Graduate	
1	2	3	4	5	6	7	8
1929-30.....	8,958						
1931-32.....	8,932	480	1,545	84	10,477	564	11,041
1933-34.....	8,074	364	2,047	(1)	10,121	364	10,485

(1) Included under 2,047.

Degrees.—The number of first degrees in home economics reported in 1929-30 was 2,260. This number, however, did not include degrees granted to those that majored in home economics in arts and science colleges. Of this total number, 1,552 were granted by land-grant colleges.

In 1931-32, a total of 3,102 first degrees in home economics was granted. Of these, 1,302 were granted by arts and science colleges to those with majors in home economics, and 1,800 were degrees conferred by professional or independent schools. Of the total, 1,550 were granted by land-grant colleges.

In 1933-34, a total of 3,166 first degrees in this subject was conferred. Of these, 1,405 were granted to those majoring in home economics in arts and science colleges, and 1,761 were granted by professional or independent schools. Of the total, 1,520 were conferred by land-grant colleges.

b. Objectives

With respect to home economics education, attention is limited in this report to the activities of the committees set up by the Association of Land-Grant Colleges and Universities.²⁸

In 1935, the subcommittee on objectives of the Core Curriculum in Home Economics made its report. The basic objectives which are being further developed according to the four main groupings are as follows:²⁸

The objective of all education is the offering of means and opportunity for the evolution of conscious life, which is accepted as the wide goal preeminently desired. On this basis the following objectives are offered for the core curriculum in Home Economics.

- I. The establishment of attitudes essential to rich and significant living.
- II. The acceptance of standards of enjoyment and ideals of living, satisfactory to the individual and profitable to society.
- III. The development of that questioning scientific attitude of mind which enables the individual to solve problems intelligently and independently.
- IV. Mastery of an adequate body of functioning subject matter that will give to the individual factual basis for and facility in meeting those responsibilities that are essentially woman's for the continuance of life, its care and protection, its enrichment and fulfillment.

More specifically, there would be included in this body of subject matter:

1. Basic physical and biological sciences through which one gains an insight into and a knowledge of the natural laws governing life, in both its physical and mental aspects.
2. Humanities which present the characteristics of our present culture and civilization, and afford an interpretation of the significance of these both to the individual and to society.
3. Basic economic and social sciences that may lead to an understanding of the character of our social and economic order, and the resulting pressures exerted thereby on the home and its members.
4. Basic Home Economics subject matter dealing with: Personal and family health, both mental and physical; child development; relationships within the family group, and between the family and the community; the management of the home and its resources; responsibilities of the consumer-buyer; adequate, wholesome, and palatable food; satisfactory clothing; healthful, comfortable, aesthetic, and satisfying housing for the family; the conserving of the racial culture through the home; and the wise use of leisure time.

The programs for specialization in the various professions in the field of home economics are definitely built upon such core curricula. Thus college students have an opportunity in many institutions to select from among several major fields for special preparation. These include teaching, dietitian work, institutional management, research in textiles and foods, nursery school direction, and several types of business.

²⁸ Proceedings of the 49th Annual Convention of the Association of Land-Grant Colleges and Universities, Washington, D. O., November 1935. Pp. 316-23.

11. TEACHING

a. *Statistics of Teacher Education*

Without question, the largest, single professional group in the United States is that of teachers. Until recently, the growth of this group has been phenomenal.²⁹ In 1933-34, there were 1,018,522 from kindergarten through college levels. Certain types of private school teachers are not included in this total.

TABLE 11.—*Distribution of teachers for 4 periods*

Teachers in—	1920		1930		1932		1934	
	Men	Women	Men	Women	Men	Women	Men	Women
1	2	3	4	5	6	7	8	9
Public elementary schools.....	63,024	513,222	67,239	573,716	67,122	573,332	74,246	545,147
Private elementary schools (estimated).....	6,322	38,977	¹ 1,466	² 60,101	3,761	62,509	4,236	47,239
Public high schools.....	32,386	69,572	³ 74,532	⁴ 138,774	80,768	150,385	87,703	140,021
Private high schools.....	5,698	9,248	⁵ 8,157	⁶ 13,631	9,859	15,194	8,130	12,587
Universities and colleges:								
Preparatory departments.....	2,714	1,568	1,594	1,251	1,643	1,314	1,251	1,009
Collegiate departments.....	21,644	6,469	39,735	14,460				
Other departments.....	982	1,239	0	0	60,298	17,228	59,438	17,658
Professional schools.....	10,603	312	⁷ 15,562	⁸ 652				
Teachers colleges and normal schools, public.....	2,963	5,161	5,315	7,588	3,842	6,061	3,663	5,337
Teachers colleges and normal schools, private.....	597	866	680	880	299	446	355	464
Commercial and business schools.....	2,976	3,189	⁹ 1,863	¹⁰ 2,211	¹¹ 1,464	¹² 1,767	1,464	1,767
Schools for defectives and delinquents.....	¹³ 1,165	¹⁴ 2,744	¹⁵ 1,578	¹⁶ 6,571	1,004	4,182	1,004	4,182
Indian and Alaskan schools.....	141	652	447	1,132	441	1,113	515	1,113
Kindergartens:								
Public.....	0	10,022						
Private.....	0	717						
Total, including undistributed items.....	¹⁷ 151,215	¹⁸ 663,358	¹⁹ 217,138	²⁰ 820,467	²¹ 279,701	²² 833,275	²³ 242,005	²⁴ 776,517
Grand total.....	815,173		1,037,605		1,062,976		1,018,522	

¹ Includes teachers in junior high schools.

² Figures for 1928.

³ Professional departments.

⁴ Figures for 1929.

⁵ Figures for 1918.

⁶ Figures for 1927.

⁷ Figures for 1931.

⁸ Does not include 1,832 men and 817 women, duplicates, in universities, colleges, and professional schools.

⁹ Does not include 1,000 men and 502 women, duplicates, in universities, colleges, and professional schools.

As to the total number of teachers reporting, the figures above show a steady increase in the number of men teachers from 1920 to 1934. Women teachers gained in numbers until 1932, but they registered a heavy loss in 1934.

(1) *Elementary-school teachers.*—The figures show that 1932 was the peak year as far as the total number of elementary teachers reporting is concerned; the number was 706,724. In the public elementary schools, there was a steady increase in the number of men teachers

²⁵ Adapted from table 6, Biennial Survey of Education, 1932-34. U. S. Department of the Interior, Office of Education, Bulletin 1935, No. 2. Statistical Summary of Education, p. 10.

from 1920 to 1934, except for an insignificant decline in 1932 over 1930. There was a normal increase in the number of women teachers until 1930, the decline beginning in 1932 and falling more by 1934.

In private elementary schools, the number of men teachers dropped excessively between 1920 and 1928, with indications of a rapid recovery in the direction of the 1920 figures. The number of women teachers, on the other hand, has increased in more normal fashion, but there was a marked drop in 1934.

(2) *High-school teachers.*—Figures show that the total number of high-school teachers reported practically doubled between 1920 and 1930. A slight drop is indicated between the peak year 1932 and 1934.

In public high schools, the number of men teachers reported more than doubled between 1920 and 1930, and between the latter year and 1934 the increase was large. At the same time, although the number of women teaching in high schools more than doubled between 1920 and 1932, a decline was noted for 1934.

In private high schools, 1932 was the peak year as to the number of teachers. In the cases of both men and women teachers, there was a slight decline between 1932 and 1934.

(3) *Teachers in universities, colleges, and professional schools.*—The figures in the aforementioned table show an exceedingly small decline in the number of college teachers between 1932 and 1934. The figures in this table refer to teachers engaged in resident instruction reduced to a full-time basis and do not include administrative officers and other staff members not engaged in giving instruction. If the latter are included, a slight gain is shown for this group.

Public teachers colleges and normal schools show a slightly greater loss in teachers during the same 2-year period, but the private institutions of this group show a considerable gain.

Attention is called to the table for the changes in other types of schools.

(4) *Students in teacher-training institutions.*—Among the main sources of the training of teachers for the schools are teachers colleges and normal schools. Attention is therefore called to the changes in enrollments reported in these institutions:

Year	Resident students in—		Total
	Regular session	Summer session	
1929-30.....	161,624	138,856	279,195
1931-32.....	153,794	123,674	271,628
1933-34.....	136,194	86,721	222,905

According to the table above, enrollments of resident students in regular sessions of teachers colleges and normal schools have steadily

declined between 1930 and 1934. This is true for both regular and summer sessions.

Figures have been compiled showing the total number of students of education reported in universities, colleges, teachers colleges, and normal schools for 1931-32 and 1933-34. In the former year, the total resident enrollment in the regular session was 227,447 and for the latter year, 197,411.

b. Changes in Institutional Types

In the main, teacher education is now confined to three types of institutions. The school or college of education in the university, the privately endowed or church-supported liberal arts colleges, and the State teachers college.²⁹

McConnell reports certain changes that have taken place among teacher-training institutions over a period of years. The following table³⁰ shows a great decline in the number of normal schools with an extraordinary increase in teachers colleges:

Type of Institution	Number in—		Type of Institution	Number in—	
	1900	1933		1900	1933
State normal schools.....	125	50	State teachers colleges.....	2	146
Private normal schools.....	13	35	Private teachers colleges.....		11
City normal schools.....	27	16	City teachers colleges.....		7

He states that in 113 teachers colleges there had been a decrease during the period 1927-35 of 13,148 2-year graduates and an increase of 8,385 in degree graduates. There are now 175 teachers colleges in addition to the colleges of education in the universities. Six years ago there were 140 teachers colleges and 16 years ago only 46. Twenty-nine teacher-training institutions have developed graduate schools. In the 2-year period, 1932-34, the number of masters degrees granted in these colleges doubled.³⁰

Recent studies go to show that curriculum trends in teacher-training institutions point to a discontinuance of shorter courses. A study³¹ recently made by President Karl L. Adams of the Northern Illinois State Teachers College, reports findings from 69 teacher-training institutions in 24 States in all parts of the United States.

He found that 19 percent of these institutions still have 1-year curricula; 66 percent have 2-year curricula; 30 percent have 3-year curricula; 95 percent have 4-year curricula; and 27 percent have 5-year curricula.

As the institutions lengthened their curricula, the new courses which were introduced were largely subject-matter courses. The first 2 years in the 4-year

²⁹ From *Recent Trends in the Development of Teacher Training* by Robert E. McConnell, president, Washington State Normal School, Ellensburg, Wash. In *Educational Administration and Supervision*, November 1936.

³¹ Unpublished study.

curricula consist largely of academic or background courses. Prerequisites play a part in all institutions with about half of the institutions giving attention to orientation courses in the various departments of instruction. A large majority of the curricula have the same core. The longer curricula allow for greater freedom of choice through electives and through substantial majors and minors . . .

The minimum requirements in professional education and student-teaching essential to teachers of high-school subjects vary among the States all the way from 8 semester-hours in Connecticut to 20 semester-hours in Michigan and West Virginia. The most common hours are 15 and 18. Similar requirements hold for elementary-school certificates on a basis of 4 years of college preparation.

Referring to the general pattern for professional work in substantial institutions as given in the summary volume of the National Survey of the Education of Teachers, President McConnell points out the following major trends:

1. A lengthening of the period of collegiate education for teachers in training—a high percentage of teacher-training institutions offer a 4-year curriculum and State certifying agencies are rapidly setting 4 years as the minimum.
2. A curriculum expansion with more consideration given to the cultural and academic background, especially in the junior college years.
3. An improvement in the education of the college staff with the master's degree as the minimum requirement.
4. An expansion in library collections.
5. The introduction of curricula for educating teacher-librarians.
6. An improvement in personnel service to college students.
7. An expansion in physical plants.

c. *The Depression and Teaching*

The teaching profession began to feel the results of the depression following 1931 when the average teacher's salary reached its peak. According to Frazier³² the beginning of the depression was largely an academic matter but—

. . . after 1932, the downswing became less and less an academic matter, and more and more an increasingly distasteful experience with reduction in salaries, shortening of school terms, greatly increased oversupply of certificated teachers, intensified competition for teaching positions, and actual loss of jobs formerly thought secure. It became evident that boom-time expansion had gone in reverse. The psychological effects of this reversal have been to confuse or halt administrative plans affecting teacher personnel and to bewilder and discourage the teachers themselves.

Long-time trends, rather than depression tendencies, are the best guides to the making of personnel policies by school administrators and to the making of professional plans by individual teachers.

For a more complete discussion of this topic attention is called to the special section of the Biennial Survey of Education that deals with the relation of the depression to education.

³² Frazier, Benjamin, W. Depression Tendencies versus Long-time Trends Affecting Teachers. *The American School Board Journal*, 91: 19-20, September 1935.

d. *The Improvement of Teaching*

The importance of the teaching profession with the complex problems which have arisen in recent years in advancing the standards of teaching in different levels has led to a number of important studies.

The first is that of the National Survey of the Education of Teachers conducted under the auspices of the Commissioner of Education. The associate director of this survey was Dr. E. S. Evenden of Columbia University who had immediate charge of the project. This major investigation was begun in 1930 and was completed in 1935 including the publication of the survey reports in six volumes.³³

In 1933, the committee on college and university teaching of the American Association of University Professors under the direction of Dr. Homer P. Dodge, dean of the graduate school of the University of Oklahoma, prepared a comprehensive study of the problems of the teacher on the higher educational level.³⁴

In 1935, the committee on instruction in agriculture of the Association of Land-Grant Colleges and Universities presented a brief but well-organized statement as to the Present Status of Programs to Improve College Teaching in Agricultural Divisions of Land-Grant Colleges.³⁵

*Report of the Committee on Program and Graduate Study which Institutions of Higher Education Should Organize for the Preparation of Secondary School Teachers.*³⁶—This report was prepared by a committee of the Association of American Universities and presented at the annual meeting of the association at the University of Texas November 5-6, 1936. The committee included Dr. Charles H. Judd, Dr. William J. Robbins, and President Lotus D. Coffman.

The purpose of this report was to suggest suitable means by which some of the conflicting situations that have developed in the training of high-school teachers may be overcome. The recommendations of the committee which were approved by the association are as follows:

1. The trend toward the requirement of study beyond the baccalaureate degree for all teachers in secondary schools is to be highly commended.
2. A systematic program of study beginning with the junior year of college should be recommended to all candidates for teaching positions in secondary schools. Such a program should be based on a broad foundation of cultural studies largely completed by the end of the sophomore year. It should include (a) preparation in one or more fields of study rather than intensive specialization in a single department and (b) special professional preparation adequate to insure that the candidate will be able to conduct secondary-school classes intelligently.

³³ National Survey of the Education of Teachers. U. S. Department of the Interior, Office of Education, Bulletin 1933, No. 10. In 6 volumes.

³⁴ Report of the Committee on College and University Teaching, Bulletin of the American Association of University Professors, May 1933.

³⁵ Proceedings of the Forty-ninth Annual Convention of the Association of Land-Grant Colleges and Universities, November 1935. pp. 287-306.

³⁶ Published by the Association of American Universities, 1936.

3. Each institution engaged in the preparation of secondary school teachers should undertake a study of the problem of assisting secondary schools in the light of its local conditions. Such a study should be a joint effort on the part of members of subject-matter departments and those interested in, and acquainted with, the professional aspects of education.
4. Educational institutions which prepare teachers for secondary schools should be equipped to give courses of high scholarly grade. Such institutions should insure the cultivation in students of a professional attitude and a profound respect for the teaching profession.
5. No institution which tolerates lack of coordination, or exchange of petty recriminations, between the departments concerned with the preparation of secondary school teachers should be regarded, as competent to prepare teachers.

e. *Education of Teachers in Vocational Agriculture, Home Economics, and Trades and Industries*

(1) *Teachers of agricultural education.*³⁷—The National Vocational Education Act made the preparation of teachers a primary objective of the law in order that the States take advantage of its other provisions thus giving emphasis to the importance of teacher-training.

The Vocational Division of the Office of Education through the Agricultural Education Service cooperates with State boards for vocational education in the pre-employment training of teachers of vocational agriculture and in certain forms of in-service teacher training. State boards for vocational education frequently delegate responsibility for pre-employment training of teachers of vocational agriculture and for certain types of in-service teacher training to designated colleges and universities. Practically all pre-employment teacher-training for vocational agriculture is carried on through the land-grant colleges and universities, there being 51 institutions for the training of white and 14 for the training of Negro teachers of vocational agriculture.

Developments in the field of teacher-training in agriculture are cited in relation to the principal functions of teacher-training as provided in many colleges and universities:

1. To provide pre-employment facilities for the training of teachers of agriculture. This function includes:
 - (a) The recruiting of trainees to insure an adequate supply of capable, well-trained beginning teachers.
 - (1) Administrative provision for careful selection of trainees as well as to provide for the elimination at any point in the training program of any person unsuited to continue in training.
 - (2) Provision for a qualifying or requalifying plan based upon additional technical and professional training for college graduates desiring to enter the field of vocational teaching in agriculture.

³⁷ Prepared by H. B. Swanson, Specialist in Teacher Training. Vocational Division of the Office of Education. U. S. Department of the Interior.

- (b) The providing of training (technical and professional) based primarily upon participating experiences and carried to the point of developing "doing" ability. This includes activities such as:
- (1) The maintaining of a proper relationship with fellow teachers, school officials, and public.
 - (2) The organizing and teaching of all-day classes.
 - (3) The organizing and teaching of part-time classes.
 - (4) The organizing and teaching of evening classes.
 - (5) The supervising of farm practice for all groups reached by systematic instruction.
 - (6) The keeping of official records and reports.
 - (7) The serving as adviser to a Future Farmers of America chapter.
 - (8) The working with adult community organizations.
 - (9) The preparing of exhibits, fairs, etc.
 - (10) The preparing of articles for the press.
- (c) The placing of all persons as teachers of vocational agriculture upon the completion of training and under circumstances affording opportunity for advancement.

A noteworthy development is the increased emphasis given to participating types of teaching experience in the pre-employment teacher-training program. To supplement practice teaching of a day-school classroom type, considerable progress has been made with cadet and apprentice programs for teacher training in which the trainee is placed in a community removed from the college, thus devoting full time to gaining experience in many teacher activities including work with adults under the direction of competent critics. To afford greater opportunity for participating types of training the 5-year program is being introduced with a year of cadet or apprentice experience provided between the junior and senior years or following the senior year of resident instruction. Many teacher-training institutions have introduced changes in the technical training program to provide balanced instruction cutting across the several major technical divisions rather than adhering to highly specialized majors for teachers of vocational agriculture. This development has led to degree courses designed to prepare for the teaching of vocational agriculture, county agent work, general farming, and for public service.

2. To develop teaching aids for teachers in service. This includes:
- (a) The preparing of professional and technical teaching materials to embody new developments and to bring together data bearing on significant units of instruction.
 - (b) The participating in district and State conferences for the purpose of redeveloping professional and technical materials of value to employed teachers.

The great wealth of teaching materials in the field of agriculture developed by many different agencies has led a number of teacher-training institutions to make provision for the preparation of technical and professional materials for the use of employed teachers. This service has had the most marked development in the States of the

southern region, where in many instances from one-half to two full-time workers per State are giving their time to this phase of teacher training.

3. To provide continuing education for teachers in service. This includes:
 - (a) Regular term graduate courses in professional and technical fields.
 - (b) Short courses of 2-3 weeks' duration, both professional and technical (on the campus and off campus).
 - (c) Technical skills units (on campus and off campus).

Teachers of vocational agriculture are employed for a 12-month year. This has created a serious problem with respect to providing forms of training designed to keep teachers abreast of new developments in both the technical and professional fields. Many teacher-training institutions have introduced short courses of 2 to 3 weeks' duration and technical skills units of even shorter duration to supplement the regular term graduate programs. These shorter units frequently provide graduate credit and are offered either on the campus or at convenient points in the State as off-campus courses.

4. To follow-up resident teacher training through a field service for the purpose of checking the effectiveness of all units of instruction thus leading to the improvement of the teacher-training program. This type of follow-up is best carried on with beginning teachers.

A valuable teacher-training development taking place in agricultural education is the provision whereby the resident teacher trainers have opportunity to follow their product in the field and on the job. Many of the teacher-training institutions have developed a plan of rotating the teacher trainers by quarters, semesters, or the full year between resident instruction and field service. Where such a plan of rotation is not followed, there frequently is an exchange of duties worked out between the State supervisor and the teacher trainer making it possible for the resident teacher trainer to have active contact with the developments taking place in the schools of the State.

5. To improve residence instruction (professional and technical) based upon the objectives for vocational agriculture in the State and upon the abilities needed by teachers of vocational agriculture.

Field studies relating to the technical need of employed teachers, the use of committees of employed teachers and surveys have been productive of marked changes in technical content of teacher-training programs in many States. The most marked changes have been made in the direction of providing better balance and more complete coverage in the several technical fields and in increasing the time given to studies in the social science group.

6. To conduct research and studies having for its purpose a direct contribution to the development of the program in vocational agriculture of the State.

The growth of vocational agriculture in the several States has warranted teacher-training institutions to make more adequate provision for research and studies in the field. Recent development indicates a number of cases where teacher trainers in agriculture are devoting part time to research. In a few instances experiment station funds now are being used for investigations of a professional character as contrasted with technical studies in the field of agricultural education.

(2) *Teachers of home-economics education.*³⁸—One of the most significant developments in the last 5 years in the college program in home economics is the attention being given to an intensive study of their curriculum by members of the college staff. Instead of making decisions to change courses and credits for courses, with only limited consideration of the program as a whole, several departments have begun to study critically the objectives which should dominate a college program in home economics, to get facts on the number who have dropped out of college in different years, the vocations they and graduates have followed, and their reactions to the college program which they have pursued. Several institutions have also been getting reactions of students to their present programs and there is a beginning of more counselling and guidance in aiding students to set their own goals, to plan their programs to meet their own individual needs, and to evaluate the progress they are making toward their goals. Some institutions have set up as their core the courses needed for home living and suggested variations from this to meet other vocational needs.

An intensive study has been made of some of the science requirements, and among the course changes which have been reported there have been several instances where the requirements in natural science have been reduced, the offerings in social science have been increased, and work in housing, in family relations, in consumer education, and in art increased. A few institutions are trying the plan of offering courses in which several departments cooperate.

Reports from institutions indicate that a greater variety of experiences are being provided for students as a part of their college work. These include observation in the nursery school, more experience in the home-management house and in homes, cooperation with the local hospital in clinics, with the county nurse on health problems, with local stores in testing, selling, and judging merchandise, with community organizations in furnishing houses within a limited cost range, and with organizations in assisting in well-children's clinics and in emergency nursery schools in the community.

The developments during the last 5 years indicate that college faculty members are becoming more conscious of problems in the

³⁸ Prepared by Beulah I. Coon, agent, Studies and Research in Home Economics, Vocational Division, Office of Education, U. S. Department of the Interior.

field and working more closely with these. For example, many institutions have employed "itinerant teacher trainers" who spend half or more of their time in the field visiting teachers and coming back to the college to report to other college faculty members on strengths and weaknesses of graduates and to revise their own courses in the light of their findings. Some of the subject-matter staffs have begun to visit graduates for the same purpose. The State-wide curriculum revision program is being directed jointly in some States by the State department of education and representatives of the teacher-education institutions.

In the professional education program for teachers, there have been two major trends: (1) The more careful selection of candidates for training, and (2) a wider variety of experiences for student teachers in situations typical of those to be met in the field. The plans used for selecting candidates vary widely but many are based on a certain scholarship standard, a background of information in the subject matter to be taught, and evidence of certain personal qualities thought to be important. Facilities for student teaching have been changed so as to include rural schools, consolidated schools, and other situations similar to those where the beginning teacher will be likely to be employed. Experience in observation and also in teaching adult classes is being increasingly provided, as is experience in visiting homes, in assisting pupils with their home projects either during the summer or during the year, in teaching classes for boys as well as girls, and in cooperating in school and community programs, and with community organizations. There has been a trend toward arranging for student teachers to have experience in observing and teaching classes throughout the full school day or the full school week, and of having them live in the community where the student teaching is being done. Two institutions have increased the length of the student teaching experience to 18 weeks, using selected schools in various parts of the State as centers. One State provided scholarships to allow for a fifth year of apprenticeship under strong teachers in three centers. Student teachers in a few States have participated in the State-wide curriculum revision program.

These trends in general seem to indicate an increased interest on the part of college staff members in studying critically the objectives of college work in home economics and in providing an increasing variety of vital experiences as a part of the college program.

(3) *Teachers of trade and industrial subjects.*³⁹—In the preparation of teachers for service in vocational trade schools, it is essential that candidates have adequate training and experience in the trade which they are to teach. In most cases, this training, with the minimum amount of trade experience which is acceptable, will cover a period

³⁹ Prepared by James R. Coxen, agent, Western Region, Trade and Industrial Education, Vocational Division, Office of Education, U. S. Department of the Interior.

of from 6 to 8 years. Since the ages at which persons are usually accepted into apprenticeship are about the same as those most common for college entrance, it follows that a relatively small number of tradesmen are college graduates. It also follows that comparatively few students in higher institutions have the necessary trade training and experience necessary to qualify as trade teachers. For these reasons, the work of providing professional training for trade teachers has been largely carried on by agencies other than the usual teacher-training institutions. During the past few years, however, there has been increasing interest and activity in this field of work by colleges and universities.

One interesting development has been the offering of special curricula for competent trade workers by which they may secure degrees. In some institutions there has been recognition of the educational value of trade training and of industrial and supervisory experience; and methods of evaluating these in terms of college credits have been developed. Special courses to supplement the training received in industry have also been developed. Where such plans have been utilized, adequate provision has been made for courses in educational psychology, principles of teaching, philosophy of vocational education, curriculum construction, methods of teaching, and supervision and administration of vocational education. The University of Pittsburgh, Pennsylvania State College, Oregon State College, the University of California, Colorado State College, Texas Agricultural and Mechanical College, Purdue University, and the University of Tennessee have all given attention to training of this kind, although not all of them have worked along the same lines.

Another plan that is widely followed by many institutions is that of providing extension courses for trade teachers and for tradesmen who wish to become trade teachers. In work of this type emphasis is placed on the needs of the teachers rather than on special courses which give credit toward degrees. In some instances work of this kind is offered at the institution either in evening classes or in summer sessions. Yale University, the University of California, the University of Texas, the University of Wisconsin, Pennsylvania State College, the University of Pittsburgh, and many other institutions have provided service of this kind.

A considerable number of colleges and universities have also made provision for itinerant training of trade teachers. One or more teacher trainers are employed and these persons conduct teacher-training courses in various centers where the number of teachers will justify such work. In some cases, these persons do some supervisory work and furnish individual assistance to teachers in need of special service.