

THE NEW JUNIOR COLLEGE

THE NEXT STEP IN FREE PUBLIC EDUCATION



James A. Starrak
Raymond M. Hughes

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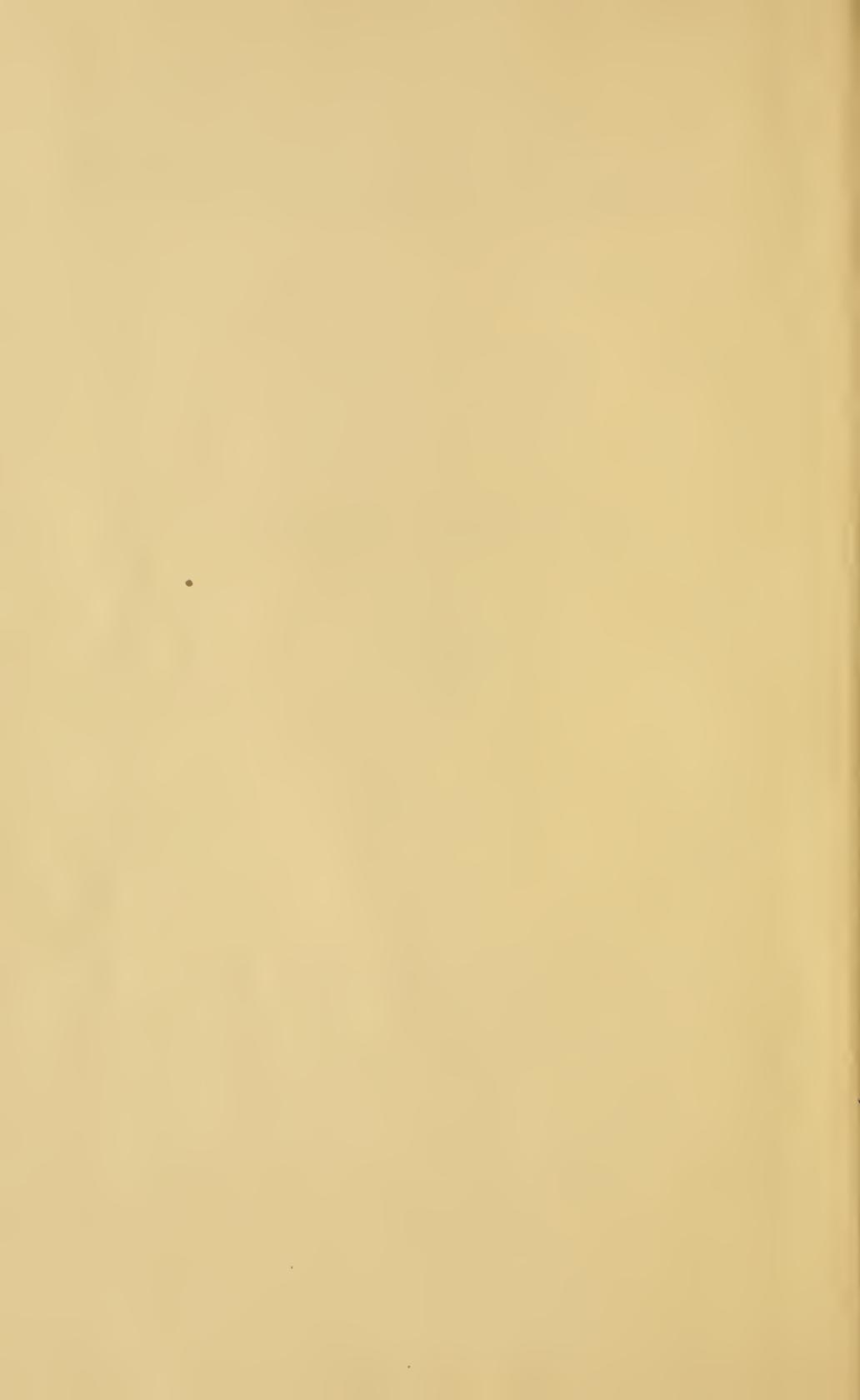
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by

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1948

THE IOWA STATE COLLEGE PRESS, AMES, IOWA

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Introduction

This bulletin deals with a relatively new but rapidly developing area or division of public education in these United States. There is, as yet, no commonly accepted name for this new educational unit or institution. George D. Stoddard,¹ president of the University of Illinois, has suggested the term *tertiary education*, which serves to indicate its position with reference to (1) the two existing lower levels—primary and secondary; and (2) the higher, *truly* collegiate levels; i.e., the senior college and the university. Time alone will reveal whether this term becomes standard. While it is descriptive of the general area to be served, it does not describe well the nature of the new institution which is taking form.

At present the relatively few institutions which are attempting to serve the educational needs in this area are most commonly known as *junior colleges* and *technical institutes*, but neither of these terms, because of its well-established usage, indicates adequately the nature of the objectives to be achieved by the new unit, nor the instructional program which it should offer. These programs are better described by such terms as *general education*, *semi-professional*, *technical*, and *vocational-technical*.

While this new unit undoubtedly constitutes an extension of our public school system, it is not one to be added to either end of our educational "ladder." Rather it is to be inserted or attached somewhere in the vicinity of the last two years of high school and the first two years of college. (See Fig. 1.) In other words, it represents a horizontal rather than a vertical expansion; it is, in general, post-high school, but not necessarily or always collegiate.

It is intended to serve the educational needs of two main groups: (1) young men and women who, for various good reasons, are unable to attend immediately a standard four-year college, or

¹ George D. Stoddard, *Tertiary Education* (Cambridge, Mass.: Harvard University Press, 1944) 36 pp. (The Inglis Lecture, 1944).

who propose to enter occupational fields for which the standard college curriculum does not give appropriate preparation; (2) adults of all ages who wish to improve their occupational, cultural, or social-civic status by systematic study. It is well known that

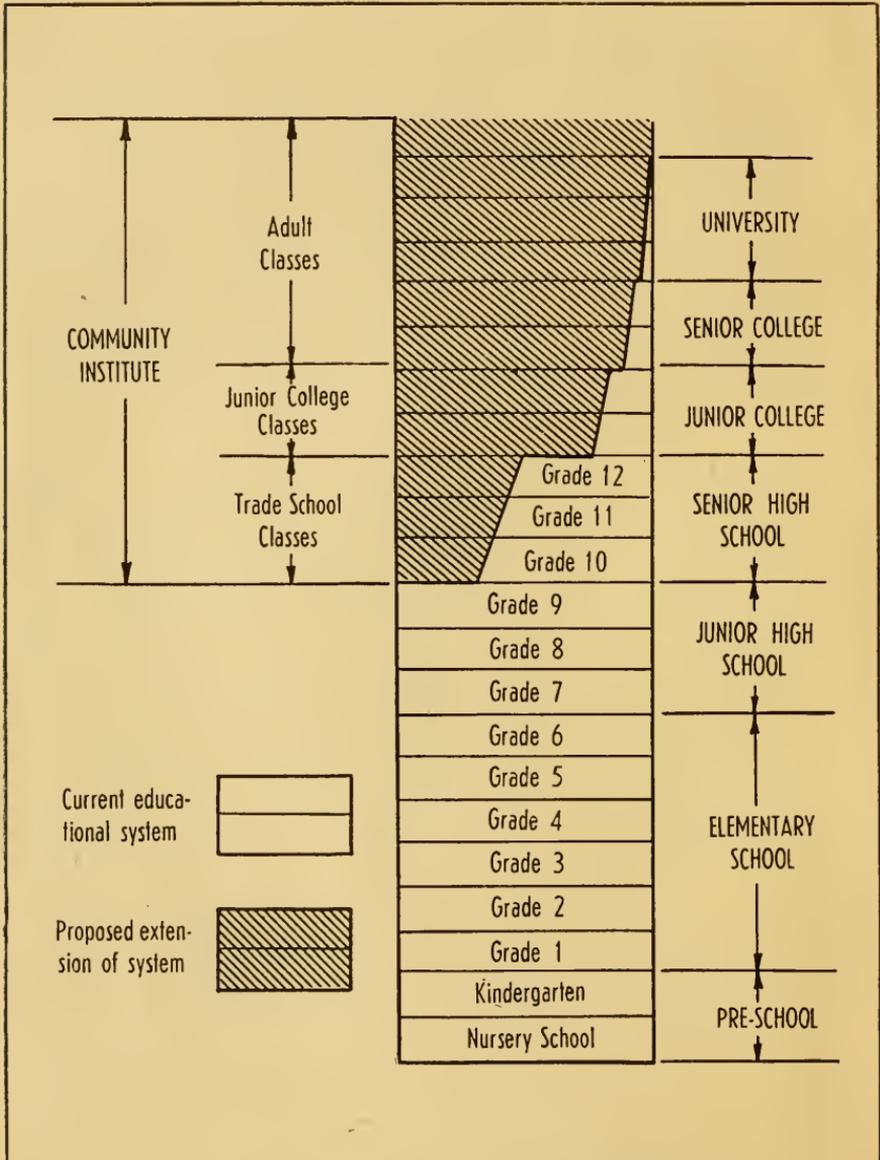


FIG. 1. Projected public educational system.

the educational needs of both these groups are not being adequately served at present.

In the pages which follow, the attempt is made to deal with this newcomer in the educational hierarchy in terms of the educational needs to be served, the objectives to be achieved, the current attempts by institutions to serve these needs, and the more significant principles and problems involved in its establishment and administration.

The Need for Post-High School Education

Many factors have combined, during recent decades, to create a real and urgent need for the sort of educational institution described and advocated in these pages. To discuss these factors in detail is quite beyond the space limitations and purpose of this publication, but brief reference will be made to a few of the more important of them.

THE INCREASE IN AGE OF ENTRY INTO INDUSTRIAL EMPLOYMENT

Due to child labor laws, increasing mechanization of industry, unemployment, and other causes, the age of entry into full-time employment has been rising steadily for several decades. The 1930-40 decade alone saw it rise from 17-18 to 19-20 years. In 1923, 11 per cent of our industrial workers were under 21; in 1928, 8 per cent; and in 1937, only 5 per cent. The same general tendency is shown in Table 1.

TABLE 1
PERCENTAGES OF 19-YEAR-OLDS EMPLOYED, IN SCHOOL, AND UNEMPLOYED (1920-37)*

Year	Employed	Percentages in School	Not Employed or in School
1920.....	77.0	17.3	5.7
1930.....	62.1	26.0	11.9
1937.....	46.6	30.0	23.4

* Walter C. Eells, *Why Junior College Terminal Education?* (American Association of Junior Colleges, 1941) pp. 20, 279.

In spite of the many efforts to reduce unemployment during the '30's, the trend depicted in Table 1 continued until relieved by the war, with its enormous demand for young persons in both the military forces and industry. In March, 1940, George F. Zook, president of the American Council on Education, stated that "there are now 3,500,000 young people between the ages of 16 and 24 who are neither at work nor at school."¹ In the same year, the

¹ Walter C. Eells, *Why Junior College Terminal Education?* (American Association of Junior Colleges, 1941) p. 279.

Federal Reserve Board reported that American industry was then producing more goods, with 1,000,000 fewer employees, than it had in 1929.²

The war quickly reversed the employment situation, but it is highly probable that after the abnormal postwar demand for goods has been satisfied, the trend toward higher ages of entrance to regular employment will be resumed. In 1940, Eells reported 75 per cent of over 1,900 educational and lay leaders surveyed were of the opinion that in their respective states young people increasingly will be unable to secure full employment before they are 20-21 years of age.³

The obvious and significant fact is that not only do legal and other restrictions operate against the employment of young workers, but an ever increasing proportion of our workers are employed in occupational fields where maturity above the high school age is demanded by employers. Long-time trends in this direction are more likely to be continued than reversed.

DECREASE IN AGE OF GRADUATION FROM HIGH SCHOOL

Because of improved attendance, decrease in retardation, more flexibility in curricula, and other factors, the age of graduation from high school has been lowered during the past few decades.

The majority of youth who complete high school now are graduated at 17 and 18 years of age. Those who do not enter college are, in normal times, faced with the possibility of two years of enforced idleness before entering upon steady employment. Those who wish to enter college and are financially able to do so are usually able to continue their education without interruption. While the proportion of such youth has increased sharply in recent years, as yet these have constituted only a minority of the total number of youth of college age.

During the depression period of the '30's thousands of high school graduates who were financially unable to go to college returned to their high schools seeking more education. In most cases they found the schools unprepared and unable to serve their needs.

During the same period as many as five million of our youth, unable to find employment or to enter educational institutions,

² *Ibid.*, p. 269.

³ *Ibid.*, p. 73.

were literally wandering around the country, acquiring habits of idleness, vagrancy, and crime; and approximately two million more were reaching the age of employability each year. Crime statistics soon reflected this deplorable situation; the modal age group for incidence of criminal behavior dropped from a pre-depression one of 26 years to one of 18 years, with the next largest group made up of 17-year-olds. Our regular educational agencies seemed helpless to cope with the situation, and as a result there were created various federal government agencies, notably the CCC, NYA, and WPA. After these were in operation for a time, the modal age group for criminal behavior rose to 23 years. The latest reports (1946) of the FBI place it again at 18 years, with the second largest group at 17 years. This latest drop is attributed to the effect of war conditions.

Under prewar conditions our regular employment outlets and our educational institutions combined did not absorb more than 60 per cent of our youth. This forced upon our nation the most significant youth problem it has ever faced. The war provided a short-time solution, but it is obvious that neither it nor the federal agencies referred to above constitute a solution that is desirable, adequate, or permanent.

When conditions become more nearly normal, we shall probably be faced again with the choice of one or more of the following solutions: (1) keep youth at home in comparative idleness, and in many cases, poverty; (2) turn them adrift to fend for themselves and to prey upon society; (3) care for increasing numbers in reform schools and penitentiaries; (4) absorb them into an extensive national compulsory military training program; (5) resurrect the prewar federal labor-education youth agencies or create new ones for the same purpose; or (6) provide under local control and make readily accessible to all youth adequate educational facilities designed to serve their needs for recreation, guidance, and training.

For intelligent, informed persons, sensitive to the seriousness of the youth problem and to the other conditions of modern society, the correct choice among these alternatives is not difficult to make. Obviously, the last in the list is the only one which offers anything at all promising in the way of a permanent solution.

HEAVY STUDENT MORTALITY IN HIGH SCHOOL AND COLLEGE

Further evidence of the need for a new and different type of educational institution is to be found in the heavy student mortality in high schools, in the small percentage of high school graduates who enter our higher educational institutions, and in the large percentages which drop out of these institutions before they have completed their respective curricula.

Numerous statistics are available on this topic, but only a minimum sample of them taken from official reports of the Office of Education, Washington, D. C., will be presented here.

The rate of student mortality from the fifth grade through to high school graduation for selected prewar years is shown in Table 2. It will be noted that although the schools have increased

TABLE 2

SURVIVAL BY GRADES PER 1,000 PUPILS ENROLLED IN THE FIFTH GRADE AND GRADUATED FROM HIGH SCHOOL IN THE YEARS INDICATED*

School Progress	Number Surviving per 1,000 Pupils			
	1923-24	1928-29	1933-34	1934-35
<i>Elementary:</i>				
Fifth †.....	1,000	1,000	1,000	1,000
Sixth.....	893	939	944	953
Seventh.....	782	847	895	892
Eighth.....	719	805	836	842
<i>High school:</i>				
Ninth.....	582	736	792	802
Tenth.....	441	624	688	712
Eleventh.....	347	498	594	590
Twelfth.....	310	432	512	513
<i>Graduates.....</i>	270	378	462	467
Year of graduation.....	1931	1936	1941	1942

* Office of Education, Statistical Summary of Education, 1941-42, Washington, D. C., Vol. II, Chapter II, p. 31.

† Fourth grade in 11-grade system; fifth grade in 12-grade system.

their holding power considerably since the early '20's, they still graduate from high school only 46 per cent of the number who enter the fifth grade of the elementary school, and somewhat more than 50 per cent of those entering grade nine. The percentage of youth 17 years of age who were graduated from our public and private high schools increased from an average of 1.2 in 1869-70 to 51.2 in 1941-42. It should be noted that these quantities are

averages and that in many schools the percentages graduating are much less than the average given for 1941-42.

The percentage of high school graduates who enter college, on the other hand, has been steadily decreasing as the high school enrollment has increased. In 1918 this percentage was 51.8, while in 1937 it was only 24. Over the ten-year period between 1930 and 1940, this percentage hovered around 25 to 30. Not more than 4 or 5 per cent enter types of post-high school educational institutions other than colleges. Partly because of heavy student mortality during college, only 15 to 20 per cent of our youth of college age are enrolled in colleges and universities.

The student mortality in these institutions of higher learning is shown for the prewar period in Table 3.

TABLE 3
PERCENTAGE OF STUDENTS LEAVING UNIVERSITIES BY YEARS*

College Year	Percentage Leaving During Year
Freshman.....	33.8
Sophomore.....	16.7
Total leaving college prior to Junior year.....	50.5
Junior.....	7.7
Senior.....	3.9
Total leaving college during 4-year period.....	62.1

* Adapted from *College Student Mortality* (Washington, D. C.: U. S. Government Printing Office, 1938) Office of Educ. Bull., 1937, No. 11, p. 21.

Institutions vary greatly in the percentage of their students who drop out before graduation. In the study referred to above, the *net* mortality of college students was reported to be from 26.9 to 62.5 per cent of the freshman class. Only 38 per cent of the total number of freshmen in all colleges completed the four-year curricula and received degrees.

In another study involving twenty-five representative American universities and four-year colleges, it was found that for every 100 students entering, only 66 completed their freshman year; 49, the sophomore year; 41, the junior year; and 37, the senior year.

In the junior colleges of the nation only about 50 per cent of the freshmen continue into the sophomore year, and less than one-third of junior college students subsequently enter higher educational institutions. In California, whose junior colleges offer con-

siderable vocational-technical instruction, only 15 per cent of the enrollees are graduated in the normal two-year period. This is because the great majority seem to want shorter terminal courses of a vocational nature, and enroll in them in large numbers when they are made available. Although about 70 per cent of the nation's junior colleges offer terminal curricula only about 34 per cent of all junior college students are enrolled in terminal curricula, whereas, for 75 per cent of all students the junior college is terminal. This means that at least 40 per cent of all junior college students are enrolled in curricula not designed to serve their needs.

Of 10,000 junior college students who were asked if they planned to continue their formal education after graduation from junior college, 80 per cent reported that they planned to continue, 15 per cent were uncertain, and only 5 per cent definitely did not plan to continue. A followup study of this same group disclosed that only 21 per cent actually did enter senior college and only 13 per cent were graduated.⁴

Of course, not all the blame for this heavy mortality can be charged against our existing institutions, although some of them might justly be censured for their failure to study the problem and their lack of interest in the future of those students whom they discard.

There are doubtless many causes for the failure of students to complete their curricula. In a nationwide investigation of the problem, college records were so incomplete that in 35 to 50 per cent of the cases, no known cause could be discovered. Dismissal for failure to make passing grades accounted for from 15 to 37 per cent of the drop-outs; financial difficulties, from 6 to 15 per cent; lack of interest, 3 to 9 per cent. Other causes accounted for substantially smaller percentages.

INADEQUACY OF CURRENT CURRICULA

While not all student mortality is due to inadequacy of the typical high school and college curricula, the percentages attributed to the several causes in the preceding paragraph strongly suggest that it may be the most important single factor.

⁴ Walter C. Eells, "Intentions of Junior College Students," *Junior College Journal* VII (October, 1936), 3-10.

The tremendous increase both in high school enrollment, and in the proportion of our youth who were enrolled, during the past half century (from 7 per cent of 14- to 17-year-olds in 1890 to 62 per cent in 1940) has resulted in highly significant changes in the capacities, interests, occupational intentions, and consequent educational needs of the student body. While notable attempts have been made by some high schools to revise their programs in order to serve the needs of all their students, the curricula of the great majority of our high schools are still designed to serve the needs of the more academically minded student. For this student the high school is only one of the necessary steps in his extended preparation for cultural and professional competency on the higher levels. This type of student was in the majority of our early high schools, but he now constitutes only a relatively small minority. The typical high school program is fitted neither to the capacity nor to the needs of the large majority of its students. The result is discouragement and frustration for many who are forced to remain until the end of the senior year, and the stigma of failure for those who drop out as soon as they are allowed to do so by legal and parental consent.

The same holds true, even to a larger extent, as measured by the percentage who drop out, in our institutions of higher learning. While the increase in enrollment has not been as spectacular as that of the high schools, it has been quite phenomenal, and with much the same result.

Colleges as a rule have been unwilling to lower or adjust their academic standards to the changing abilities and needs of their students, or to make the necessary revisions in their curricula, and perhaps justifiably so. They have also been reluctant to offer separate programs of both nondegree and noncollegiate instruction, on the grounds that such programs would tend to lower the quality of their regular four-year degree programs. Leaders in the field of engineering education have been giving serious study to the problem of "semiprofessional" or technical training for several years. While recognizing the great need for this type of education, they have declined to accept it as the responsibility of the regular engineering colleges.

Whatever may be the merits of this position, it is true that the

easier alternative to setting up nondegree curricula, and the one most commonly adopted, has been to "drop" those students who were unable or unwilling to meet prevailing standards.

This has been just as true of the liberal arts colleges because of the academic character of their curricula. Not long ago the responses of 1,907 educational and lay leaders were obtained in response to the question, "Do you think that the course of study in the average university or liberal arts college adequately fits the needs of students who will spend only two years in college?" Eighty-five per cent replied, "No"; 10 per cent, "Yes"; while the remaining 5 per cent were undecided.

The failure of our higher educational institutions to serve the educational needs of all youth who knock at their doors should not be regarded as a wholesale indictment of them. The point we wish to make is not that the present four-year colleges and universities should adjust their standards and curricula to the needs of all whom they find it necessary to drop because of low scholarship, but rather that the current curricula of these institutions are not designed to serve the educational needs and interests of this large group of young people. The same can be said of the typical junior college, though perhaps with less justification since a larger proportion of the latter have attempted curricular adjustments in the desired directions, as will be described later. The point we are attempting to make is that some provision should be made to serve that large proportion of our youth whose educational needs, for various reasons, are not now being served by our educational system. If, to do this adequately, a radical revision of some of the existing divisions of our educational system, or the creation of a new type of institution, is required, then we should proceed immediately to make the necessary revisions or to create such institutions.

CHANGING DEMANDS OF MODERN SOCIETY FOR TRAINED WORKERS

Changing conditions and technological advances in the fields of production and service have increased sharply the need for sub-professional and technical workers. Between the learned professions at the top and the nontechnical trades and services at the bottom, there lies a large and rapidly increasing number of occu-

pations which call for a high degree of intelligence, some scientific understanding and judgment, and, in some cases, a considerable amount of manipulative skill. This middle group of technical and subprofessional occupations is to be found in agricultural, industrial, governmental, social, artistic, and religious fields.

There has occurred a marked stratification in the service professions due to their expansion and the specialization of functions within each. Medicine is a good illustration, for the art of healing is now a realm of stratified professions or occupations; namely, physicians, surgeons, psychiatrists, optometrists, nurses, laboratory technicians, all requiring different types and amounts of training. One does not graduate from one to the other of these strata, but rather selects one of them, prepares definitely for it, and practices it more or less exclusively and permanently.

Industry likewise has multiplied the technical functions of engineering, and many of these functions are subprofessional in character. They are to be found in such areas of production as supervision, inspection, technical production, drafting, plant operation, and maintenance. Successful performance of these functions does not require a four-year degree in engineering, but it does require specialized technical instruction or training beyond the high school level.

At the present time because of the lack of persons so trained, college graduates are being employed to perform such work in 40 per cent of the 117 industrial plants included in a 1943-44 study.⁵ In more than two-thirds of these plants, such jobs could be filled acceptably by persons with appropriate vocational-technical training of less than college-degree grade. The same investigation revealed that, for industry as a whole, an average of 5.3 technicians, with less than college degree preparation, were required for each college-trained engineer.

In a prior investigation conducted in 1931,⁶ the managers of manufacturing industries estimated the desirable quota of their employees having two years of training above the secondary level at from 6.0 to 8.3 per cent of their total working forces. Moreover,

⁵ U. S. Office of Education, *Vocational-Technical Training of Industrial Occupations*, Vocational Education Division, Bull. 228, 1944, p. X.

⁶ *A Study of Technical Institutes* (The Society for the Promotion of Engineering Education, 1931) p. 7.

it was estimated that the demand for such personnel at that time was not more than one-fiftieth supplied.

In a more recent investigation made in 1943, the same managers estimated the desirable quota of employees with two years of vocational-technical training above the high school level to be approximately 28 per cent of their total personnel.⁶ This suggests that rather radical changes had taken place in industrial technology since 1931. It would appear that while the number of manual workers per unit of production in the manufacturing industries has decreased markedly, there has been a corresponding increase in the number of technical workers required.

Even as long ago as 1928 this trend was noticeable. In a survey made by the Society for the Promotion of Engineering Education, manufacturers reported that 17 per cent of their supervisory and technical staffs should be graduates of standard four-year colleges; that 46 per cent should have two years of technical training of a nondegree character; and further, that in normal times industry could absorb 40,000 to 50,000 graduates of two-year terminal courses per year.⁷

W. E. Wickenden, chairman of the committee making the survey, described the situation thus: "Real engineers are surrounded by hosts of draftsmen, detail designers, specification editors, inspectors, testers, instrument men, sales representatives, contractors, office managers, and operating superintendents, and nobody knows where the profession begins or ends."⁸

The general characteristics of the occupations we have reference to are well described in the following definition:⁹

"A 'Technical Occupation' is a vocation requiring skillful application of a high degree of specialized knowledge together with a broad understanding of operational procedures; involving the frequent application of personal judgment; usually dealing with a variety of situations; and often requiring supervision of the work of others. It offers the opportunity for the worker to develop an ever-increasing personal control over the application of his knowledge to his work and usually requires fewer motor skills

⁷ Society for the Promotion of Engineering Education, *Report of the Investigation of Engineering Education*, Vol. II.

⁸ *Ibid.*

⁹ Kenneth C. Beach, et al., *Technical Occupations in the State of New York*, (Albany: State Education Department, 1946) (Mimeo.) Section I, p. 1.

than a trade or skilled occupation and less generalized knowledge than a profession."

While the data, and their educational implications, presented above are drawn chiefly from industrial or manufacturing and service occupations, the general situation they depict exists in other occupational fields. Agriculture, for instance, has become so complex and its operations so technical that to succeed in it demands the intelligent application of a great variety of economic, mechanical, and scientific knowledge.

In a recent investigation in which the judgments of 243 eminently successful Iowa farmers were obtained, 50 per cent placed the amount of formal education needed by the farmers of Iowa today at two years beyond the high school. The remaining 50 per cent were about equally divided between graduation from high school and graduation from a four-year college.¹⁰ It was also apparent from their responses to other questions that the typical four-year college degree curriculum in agriculture does not constitute the most appropriate training needed.

For all of our major occupational fields combined it has been estimated that there are five positions requiring two years of post-high school training for each one requiring four years of standard college work.

Before leaving this topic it should be pointed out that the two years of preparation, usually indicated as desirable for the types of occupations listed above, do not coincide either in objective or content with the first two years of a regular four-year college curriculum. Students who drop out of college at the end of the first two years of the regular degree curricula in their respective occupational fields, as so many do, receive neither the amount nor the content of the training appropriate for these technical and subprofessional occupations.

CHANGES IN RURAL SOCIAL ORGANIZATION

Certain economic and social forces, operating with increasing effect since the beginning of this century, have produced profound changes in the sociological organization of rural America. In pioneer days the rather simple political, commercial, and recrea-

¹⁰ J. A. Starrak, *Current School and College Education in Agriculture for Iowa Farmers*, (Ames, Iowa: Agr. Exp. Sta., Iowa State College, 1945) Bull., p. 74.

tional activities and needs of the people were provided by the small population centers which sprang up along the railroads and waterways, and at the intersections of important overland trails. These centers also supplied the relatively few goods and services which the pioneer farm families could not supply for themselves on their own farms.

In recent years the mechanization and commercialization of agriculture, the development of rapid transportation facilities, the increasing dependence of the farmer upon wider domestic and foreign markets, and other related factors, have increased enormously the number and variety of goods and services which farmers need and are now demanding. Only the most strategically located of the early settlements are now being called upon to supply these goods and services. The great majority have lost, or are gradually failing to hold, the key positions they once occupied in the economic and social life of rural people. The general result has been their gradual decay. There seem to be good reasons for believing that except in very exceptional cases this decay will be permanent.

Prominent among the services demanded of these smaller population centers was education, especially of the secondary level. The one-room elementary school could not satisfy this demand for secondary education, and after a few early and rather unsatisfactory attempts to establish their own high schools in the open country, farmers began to join with town people to form consolidated school districts and maintain high schools, or to arrange with nearby high school districts to have their children attend high schools on a tuition basis. These high schools were usually located in the villages and towns which served many of the other needs of farm people.

A large proportion of these villages and towns were adversely affected by changing economic and social conditions and have gradually assumed the state of decadence described above. The high schools located in these smaller centers were never very efficient institutions, and they have become comparatively less so in recent years. In the early days, they did serve to prepare for college a small proportion of the rural youth, and that was about all that was demanded of them. The great increase in the proportion of our youth who attend high school has created demands

upon the present-day high school for a variety of educational services which the smaller high schools are quite incapable of rendering.

While a large proportion of our smaller population centers were deteriorating, others were expanding not only in population but also in their ability to supply the demands of farmers for an increasing number and variety of needed goods and services. They thus became centers of larger trade areas which are known to sociologists as "local communities." They also have become centers of education for the surrounding rural areas, especially for education on high school levels.

But the factors responsible for the changes in rural community reorganization outlined above are still with us, and their continued operation is bringing rapidly into existence a third and larger type of sociological unit, for which no suitable term has yet been found. It is a multi-community area with a comparatively large town as its nucleus, and is capable of offering services which the neighborhood and local community centers cannot supply, at least with the same degree of efficiency and adequacy. While these larger community centers tend to coincide with the county-seat towns, in many cases the latter are too small to meet the demands made upon them, with the result that larger towns in adjacent counties may become the sociological centers of larger multi-community areas, embracing two or more adjacent counties.

THE INCREASING COMPLEXITY OF MODERN SOCIETY

The great number and complexity of current economic, social, and political situations and problems which characterize our modern society make extraordinarily heavy demands upon the intelligence, understanding, and character of all our citizens. Probably at no other time have so many people needed to know and understand so much about so many things as at present, in order to safeguard the democratic way of life, and to prevent the worldwide collapse of our civilization. Careful students of modern life all seem seriously concerned about the dangers which threaten human freedom in the years immediately ahead. They regard with dismay the low educational status of adults in the United States revealed in the 1940 census. The typical American citizen,

25 years old and over, has the equivalent of slightly more than eight years of schooling; and in any representative sampling of 100 persons, 4 persons have never attended any school, 10 have had four years or less of elementary school experience; 46 have had from five to eight years, 30 have had one or more years of high school education, while the remaining 10 have attended college from one to four years.

This is the current educational status of the nation which is regarded as the citadel of democracy for a world in which the educational level of most countries is even considerably lower. No sane person can argue that our current domestic and international problems are so simple that they can be solved satisfactorily by persons with an eighth-grade education. Moreover, there is no likelihood of a sudden return to the simple life of our grandparents, when much less education was required of people who wanted to be their own masters.

Obviously, a longer period of full-time education for our future voters than is available to the majority of them today, and the continued part-time education of adults are clearly indicated. Neither the typical high school nor junior college is today giving the kind and amount of educational service required by citizens of the world of today and tomorrow. The majority of our adult voters must quite soon become well informed on a great variety of complex problems. While a small proportion of them may achieve this intelligence by independent study, the great majority need systematic instruction over relatively long periods. This implies a large expansion of organized facilities for adult education.

INCREASE IN LEISURE TIME

The trend toward a shorter working day for a steadily increasing proportion of our population, which has accompanied the mechanization of industry during the past few decades, will undoubtedly continue. Because the character of our leisure time activities affects so profoundly the quality and fullness of our lives, the development of worthwhile leisure time interests and abilities has become recognized as an important objective of education. There is ample evidence that many of the leisure time activities of a large proportion of the American people do not contribute to

sane and wholesome living. Definite improvement is obviously called for in this aspect of American life.

Facilities for instruction and participation in leisure time education which are now provided to some extent in up-to-date elementary and high schools need also to be made available during post-high school years. This is the period when youth has perhaps the greatest need for opportunities and guidance in the proper use of their leisure hours. It is also the period when, under present circumstances, practically no organized and properly supervised recreational activities of a free noncommercialized character are provided for them. Quite obviously, a great expansion of such facilities is urgently required.

Such then is a brief description of the general situation which must be faced by those who administer and direct our public educational system. It appears impossible to dodge this responsibility or shift it to other institutional agencies. To an ever-increasing extent during the past few decades, the responsibility for certain phases of the education of youth, which were formerly the function of other agencies, has been placed upon the public school.

When the public schools have failed to discharge these responsibilities, the federal government has entered the field of public education with its own specially created agencies, notably the CCC, the NYA, and the WPA of recent memory. In a very real sense we can see here the beginnings of a federal system of public education to supplement and, perhaps in time, supplant our state systems. While the war has resulted in the abandonment of these federal work-education agencies for youth, there is good reason to believe that, should certain economic and social conditions of the '30's recur, and the public school prove unwilling or unable to meet the resultant educational needs of our youth, the federal government would once again create and operate its own agencies.

Whether this trend to place added responsibilities upon the public schools is desirable or justifiable may be debatable, but to debate it is not our purpose at present. The fact remains that society is looking to its public educational system to prepare its citizens for successful participation in efficient, intelligent, demo-

cratic living. It is equally clear that, if education is to be successful in discharging this responsibility, a longer period of formal systematic education, with greatly varying curricular offerings designed to serve the occupational, social, and recreational needs of modern life, will be required. Hence the current trends to extend the period of secondary education and to enrich the curriculum in these several aspects of our lives. It is obvious that the educational institutions in existence today, effective as many of them are, are not serving adequately the educational needs of the majority of our people.

Current Attempts at Post-High School Education

Attempts to meet the needs of our people for post-high school education, growing out of the situation outlined in the preceding section, have given rise to several different types of educational institutions. Some of these have been designed to serve one kind of educational need, and some, another, and only a very small percentage of them, if any, should be regarded as serving adequately the educational needs of all youth and adults in their respective service areas.

The purposes of this volume demand that at least brief descriptions be given of the following: (1) the junior college; (2) the technical institute; (3) the junior college divisions of colleges and universities; (4) the 13th and 14th high school grades; (5) the industrial high school; and (6) area vocational schools.

THE JUNIOR COLLEGE

The term "junior college" is a rather general one, commonly and rather loosely employed to designate a variety of educational institutions offering usually two years of collegiate instruction beyond the high school. In addition to the newly created regular junior colleges, there are included in this category (1) public high schools that have added junior college divisions, (2) established preparatory schools which have expanded their offerings into the college level, (3) small four-year colleges which have dropped their senior college work to concentrate on the first two years of college work, (4) branch junior colleges sponsored by universities, (5) emergency and freshman junior colleges which have recently been organized, and a few other types.

While already pretty well established as a part of our educational system, the junior college movement is yet in a state of flux. Junior colleges are in the process of discovering their true purposes and their rightful place in the scheme of American education.

Therefore, considerable variation exists between them in objectives, curricula, enrollments, and administrative practices. For much the same reason, reliable up-to-date information and statistics on the junior college movement are difficult to obtain and are soon outdated.

GROWTH OF JUNIOR COLLEGES

The growth of the junior college movement in the United States has been rather spectacular. Practically all of such institutions, now numbering over 600, have been established since the beginning of the century. Corresponding increases have occurred in enrollments and in the number of curricula offered.

Table 4 shows the growth in terms of the number of institutions and the dates of their opening.

TABLE 4
DATES OF OPENING OF JUNIOR COLLEGES, UNITED STATES*

Dates	Total	Public	Private
Before 1900	8	.....	8
1900 to 1904	5	2	3
1905 to 1909	12	1	11
1910 to 1914	28	7	21
1915 to 1919	58	21	37
1920 to 1924	97	47	50
1925 to 1929	161	92	69
1930 to 1934	112	40	72
1935 to 1939	92	48	44
Grand Total	573	258	315

* C. R. Griffith, *Junior College in Illinois* (Urbana, Ill.: University of Illinois Press 1945) p. 14.

The growth in enrollment has also been remarkable, as is shown in Table 5.

The appearance of special students in 1938 coincides with the increasing rate of introduction of vocational-technical instruction in junior colleges.

The different states vary greatly in the number of junior colleges within their borders, from two each in Arizona, New Mexico, and Oregon, to sixty-four in California.

The number of publicly and privately controlled junior colleges in each state in 1944, along with their total enrollments is presented in Table 6.

TABLE 5
JUNIOR COLLEGE GROWTH, UNITED STATES, 1928-45*

Year	Number	Total Enrollment	Special Students	Increase in Total Enrollment	Special Students
				Percentage	Percentage
1928.....	408	50,529	.....	.....	.....
1929.....	405	54,438	.....	7.7	.....
1930.....	429	67,627	.....	24.2	.....
1931.....	436	74,088	.....	9.6	.....
1932.....	469	97,631	.....	31.8	.....
1933.....	493	96,555	.....	- 1.1	.....
1934.....	514	103,592	.....	7.2	.....
1935.....	522	107,807	.....	4.1	.....
1936.....	519	122,514	.....	13.5	.....
1937.....	528	129,106	.....	5.6	.....
1938.....	553	136,623	20,750	5.8	15.2
1939.....	556	155,588	33,204	13.9	21.3
1940.....	575	196,710	52,849	26.4	26.9
1941.....	610	236,162	73,371	20.5	31.1
1942.....	627	267,406	102,369	13.2	38.3
1943.....	624	314,349	158,425	17.6	50.4
1944.....	586	325,151	193,360	3.4	59.5
1945.....	584	249,788	161,791	-23.2	64.8

* C. R. Griffith, *Junior College in Illinois* (Urbana, Ill.: University of Illinois Press 1945) p. 14.

ENROLLMENTS

Enrollments vary greatly from college to college. In 1944, 65 had full-time enrollments of less than 50; 189 had less than 100; and 336 had less than 200 students. On the other end of the scale, there are 3 with over 4,000 and 15 with over 1,000.

The states also vary greatly with regard to the proportion of their respective populations enrolled in junior colleges. Figure 2 presents the number of students enrolled per 10,000 population. California leads again with 125 students enrolled per 10,000 population; followed by Utah with 60; Idaho with 40; Kansas, 32; Illinois, 24; Missouri, 22. Iowa has only 15 enrolled per 10,000 population, while the average per state for the whole country is 18.

ADMINISTRATION AND ORGANIZATION

Of the 627 junior colleges in operation in 1942, 348 were privately controlled, while the remainder (279) were under some sort of public control.¹

¹Walter C. Eells and P. Winslow, "Junior College Directory 1941," *Junior College Journal* XI (January, 1941), 279-300.

TABLE 6

NUMBER OF AND ENROLLMENT IN PUBLICLY AND PRIVATELY CONTROLLED JUNIOR COLLEGES IN THE UNITED STATES, 1944*

	Junior Colleges			Enrollment		
	Total	Public	Private	Total	Public	Private
Total	585	260	325	325,034	259,542	65,482
Alabama	8	0	8	956	0	956
Arizona	2	2	0	1,328	1,328	0
Arkansas	9	6	3	2,240	1,644	596
California	70	56	14	169,095	165,850	3,245
Canal Zone	1	1	0	919	919	0
Colorado	10	4	6	3,274	2,193	1,081
Connecticut	14	0	14	4,860	0	4,860
Delaware	1	0	1	36	0	36
Dist. Columbia	7	0	7	762	0	762
Florida	11	1	10	2,847	400	2,447
Georgia	21	11	10	4,911	3,764	1,147
Idaho	4	3	1	1,450	1,188	262
Illinois	25	12	13	13,750	10,865	2,885
Indiana	6	1	5	562	141	421
Iowa	21	13	8	2,457	1,322	1,135
Kansas	21	13	8	3,838	3,336	502
Kentucky	14	2	12	1,879	342	1,537
Louisiana	2	2	0	1,112	1,112	0
Maine	4	0	4	631	0	631
Maryland	6	0	6	1,036	0	1,036
Massachusetts	24	1	23	4,322	13	4,309
Michigan	13	8	5	3,497	3,079	418
Minnesota	15	12	3	3,161	2,878	283
Mississippi	22	12	10	5,806	4,946	860
Missouri	24	11	13	8,799	3,724	5,075
Montana	4	3	1	1,053	417	636
Nebraska	7	5	2	2,616	2,270	346
Nevada	0	0	0	0	0	0
New Hampshire	3	0	3	582	0	582
New Jersey	10	1	9	2,182	245	1,937
New Mexico	1	1	0	374	374	0
New York	18	6	12	10,808	3,118	7,690
North Carolina	25	2	23	6,130	1,773	4,357
North Dakota	5	5	0	757	757	0
Ohio	8	1	7	2,006	326	1,680
Oklahoma	19	17	2	4,281	4,148	133
Oregon	2	0	2	1,103	0	1,103
Pennsylvania	19	5	14	3,490	908	2,582
Rhode Island	0	0	0	0	0	0
South Carolina	11	0	11	1,091	0	1,091
South Dakota	6	1	5	1,334	789	545
Tennessee	12	1	11	2,049	383	1,666
Texas	37	24	13	20,418	18,351	2,067
Utah	6	5	1	5,185	5,085	100
Vermont	3	0	3	503	0	503
Virginia	15	1	14	5,918	2,889	3,029
Washington	8	8	0	2,238	2,238	0
West Virginia	4	1	3	803	203	600
Wisconsin	7	2	5	6,585	6,224	361
Wyoming	0	0	0	0	0	0
Cuba	1	0	1	117	0	117

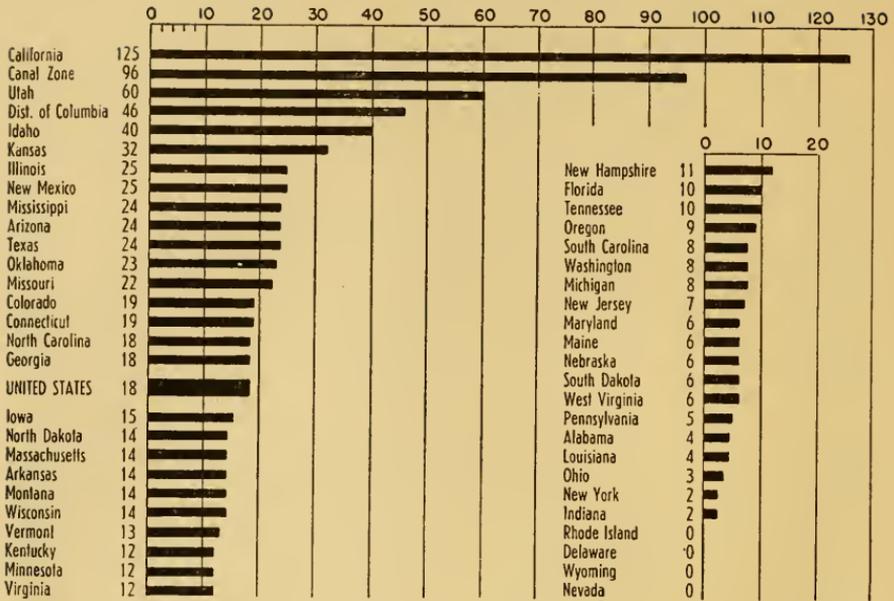


FIG. 2. Junior College enrollment by states for each 10,000 population, 1940. (Based upon U. S. Census for 1940 and enrollment data of Table 11.)

Publicly supported and administered junior colleges are of two main types: (1) state controlled, and (2) locally controlled. The first are usually administered by appointed or elected state boards of education, and supported largely, if not entirely, by state funds. The second group includes all junior colleges controlled by boards of education or trustees elected on a district, county, municipal, or other type of local district basis.

California, to which we shall often refer because of its leading position in the junior college field, employs three types of public junior college districts: (1) the local school district, coterminous with the high school district; (2) the union district, embracing two or more contiguous high school districts; and (3) the county, including all county territory not already in a high school district.

Publicly controlled junior colleges may also be classified as (1) those which are integral parts of the public school systems, usually housed in the high school buildings and administered by the local boards and school superintendent; and (2) those under separate administration and supervision with physical plants independent of high school buildings.

Of the 279 public junior colleges, 44 are administered by the state, while the remainder constitute parts of the public education system of the areas in which they are located. There is a growing tendency to have them administered by the same board which administers the local elementary and high schools in their respective districts. However, in some states, special junior college districts have been created, each of which embraces several high school districts. Each of these special junior college districts has an elected or appointed board of education to administer the junior college, and a special property tax is levied for its support over the whole district.

These superimposed junior college districts are created in situations where the local units of school administration of high schools are too small to maintain their own junior colleges. Where they are large enough, the local board of education administers the public junior college of the community.

Although outnumbered by the private junior colleges, those under public control enrolled 73 per cent of the total junior college enrollment in 1942. The increase in enrollment has also been much more rapid in recent years in the public institutions.

FINANCIAL SUPPORT

The privately controlled junior colleges, both independent and denominational, derive their chief support from student fees, current private gifts, and income from endowments. With about a half dozen exceptions, they do not receive any public funds.

The methods of supporting public junior colleges vary considerably among the states. Funds come from several different sources; and the number of these sources and the proportions of the total support derived from each also vary greatly from state to state. The chief sources are student fees, state appropriations, county, city, and district property taxes, federal appropriations, private gifts and grants, endowment earnings, and sales of goods and services.

In Table 7 the extent to which each of the 29 states, with public junior colleges, draws upon the different sources for their support is shown.

While student fees are employed in every state, the extent to which they are varies greatly, from 2.6 and 4 per cent of the total

TABLE 7

MAJOR SOURCES OF FINANCIAL SUPPORT OF PUBLIC JUNIOR COLLEGES, WITH PERCENTAGES DERIVED FROM DIFFERENT SOURCES (1937-38)*

State	Number of Colleges	Students' Fees	County, City or District	Federal Govt.	State Govt.	Private Gifts and Grants	Misc.
Alabama.....	1	12.7	1.2	50.9	29.3	4.6	0.0
Arizona.....	2	10.5	72.2	0.0	16.3	0.9	0.0
Arkansas.....	6	32.4	3.0	0.4	56.0	6.8	1.3
California.....	39	4.5	55.4	0.3	36.6	0.0	3.1
Colorado.....	4	2.6	19.8	0.0	42.3	4.0	7.2
Florida.....	1	100.0	0.0	0.0	0.0	0.0	0.0
Georgia.....	11	25.8	15.9	0.0	52.2	4.6	3.1
Idaho.....	2	47.1	0.0	0.0	0.0	51.6	1.1
Illinois.....	8	3.0	93.4	0.2	0.0	3.0	1.0
Indiana.....	1	100.0	0.0	0.0	0.0	0.0	0.0
Iowa.....	23	73.6	23.8	1.9	0.0	0.6	0.0
Kansas.....	11	3.9	94.3	0.0	0.9	0.8	0.0
Louisiana.....	2	21.1	0.0	1.9	77.2	0.0	0.0
Maryland.....	1	64.9	0.0	0.0	32.8	2.1	0.0
Massachusetts..	7	90.0	0.0	0.0	0.0	0.0	9.9
Michigan.....	8	46.4	51.7	0.0	0.6	0.7	0.4
Minnesota.....	7	15.6	0.0	0.0	83.0	0.0	1.4
Mississippi.....	11	14.5	66.0	0.2	15.3	0.1	3.8
Missouri.....	7	34.1	57.6	0.0	7.1	0.0	1.1
Montana.....	1	22.1	0.0	0.0	77.8	0.0	0.0
Nebraska.....	2	37.4	62.6	0.0	0.0	0.0	0.0
New Jersey.....	2	86.8	3.2	0.0	0.0	10.0	0.0
New Mexico.....	2	34.9	0.0	0.0	49.4	1.9	13.7
N. Carolina.....	1	68.2	31.8	0.0	0.0	0.0	0.0
N. Dakota.....	2	15.0	0.0	18.6	50.2	0.0	16.1
Oklahoma.....	16	10.9	1.5	0.2	85.4	0.6	1.4
Texas.....	22	37.7	24.5	0.9	34.7	0.2	2.0
Utah.....	4	22.3	9.7	0.5	62.7	0.3	4.0
Washington.....	2	100.0	0.0	0.0	0.0	0.0	0.0

* Adapted from "Statistics of Higher Education," *Biennial Survey of Education in the United States*. (Washington, D. C.: Office of Education) Bull. (1940) Vol. II, Chap. IV.

operating costs in Colorado and California, respectively, to 100 per cent in Florida, Indiana, and Washington.

These three last-mentioned states have a total of only four public junior colleges, with budgets totaling \$37,000. Only five states derive a higher percentage from student fees than does Iowa, and in those five states there is a total of only eleven public junior colleges.

In nineteen states the state government contributes to the support of the public junior colleges, with amounts ranging from 0.6 per cent to 85.4 per cent of the total costs. In eighteen states

property taxes on a county, city, or district basis are used, in amounts ranging from 1.2 per cent to 94.3 per cent.

Only twelve states obtain federal aid for the support of their junior colleges, and only in relatively small amounts. Federal aid is available for vocational-technical instruction of a subcollegiate grade even when such instruction is given in an institution of collegiate rank.

The public junior colleges in nineteen states receive private gifts and grants, but in no state except Idaho (with only two institutions) do funds from this source constitute a significant proportion of the total.

It will be noted that the data presented in Table 6 are for the school year 1937-38, but they are probably timely enough for our purposes since more recent data are not available for the whole country. Although there was considerable agitation in the intervening period for more adequate financial support for public junior colleges, little was done in this connection during the war years. But the demobilization of our military forces and the desire of returned veterans for further education have accentuated the need for junior colleges. As a result, in the past two years in the legislatures of many states measures have been enacted in some and proposed in others to increase the facilities in the existing institutions and to create new ones.

Most of these measures have had to do with financial support. There is a general trend to increase the amount of governmental support, whether state, county, or district, and to decrease the amount of student tuition fees. Legislation to increase the amount of state support was proposed during 1944 and 1945 in the legislatures of Arizona, California, Illinois, Missouri, Nebraska, Texas, and Wyoming. There seems to be a growing acceptance of the idea that junior colleges should be regarded as an integral part of the system of free public education of each state and, as such, should be tuition-free. This also implies increased state support since local districts are forced to rely upon property taxes, which are already, in most instances, probably high enough.

The cost per student of maintaining a junior college, with a reasonably adequate program, has been placed at \$200 to \$250. In actual experience the range is much greater. In California,

which leads the United States in the development of its junior college program, the total public expenditures per student in average daily attendance in 1941-42 ranged from \$165 to \$432, with an average of \$244. When the cost of capital outlay is deducted, the corresponding values become \$158, \$288, and \$226. It should be noted that teachers' salaries in California are comparatively high and that in their junior colleges they offer a considerable amount of vocational-technical education, which is more expensive than instruction in academic subjects.

CURRICULUM

The curriculum of the junior college has been to a considerable extent under the domination of state universities and other important higher institutions of learning. As a result of this influence, the typical junior college curriculum has been largely a replica of the program of the first two years of the regular four-year curricula in these institutions. This influence is lessening somewhat as it becomes more apparent that the junior college can best serve its community by offering a much broader program than the customary preacademic and preprofessional studies of the first two years of the degree-granting institutions. In response to an increasing demand, terminal curricula, both vocational and general or cultural, are becoming important features of the more progressive junior colleges.

TERMINAL CURRICULA OF JUNIOR COLLEGES

Terminal curricula are instructional programs which are not intended primarily as a preparation for subsequent education, but as a direct preparation for participation in normal life activities. Such curricula are now being offered in over 200 occupational fields, including such widely varying ones as aviation, construction, radio operation and repair, mechanical specialists, news reporting, medicine and dentistry, secretarial and clerical work, nursing, real estate, insurance, surveying, watch repairing, agriculture and forestry, chemical technician's work, banking, advertising, landscaping, gardening, construction contracting, cosmetology, police work, electricity, commercial art, hotel and restaurant management, library clerical work, welding, blueprint making and reading.

Terminal courses of the "general" education type are offered in such fields as the fine arts, literature, languages, and the social

studies. These courses are not given for the purpose of accumulating academic credit to be transferred to a senior college, but for immediate functional use in the enrichment of the intellectual life of the individual through the development of aesthetic appreciation and social understanding.

Since terminal curricula constitute the phase of post-secondary education with which this bulletin is most concerned, special attention will be given to them at this point. They are of two general types: (1) general or cultural and (2) vocational or technical. They may be further classified as full-time or part-time, as day-time or evening, for youth or for adults. Perhaps the following definition suggested by the Commission on Junior College Terminal Education of the American Association of Junior Colleges will suffice for our purpose:

“Terminal curricula are designed for students who wish in one or two years to gain an understanding of their intellectual, social and civic environments, to explore several fields of work as an aid in making occupational choices, or to acquire vocational training which will lead to employment in semi-professional fields.”²

The need for terminal curricula on the junior college level was suggested in the preceding section of this bulletin. It is summarized quite well in the following excerpt.

“But we are now facing a new awakening to the effect that below the strictly professional, we have the semi-professional and skilled occupations which demand education adapted to that large mass of our American people who are not going to be the scholars but rather the workers in their respective fields in the countless avenues of industrial, governmental, social, artistic, and religious movements. These constitute a new unit which is clamoring for a recognition of its identity and a place in the universe. They demand for their level an effective background in general culture commensurate with what the traffic will bear; but this must be tinged with a vocational objective and an appeal to the vocational and the avocational urge. Whatever form of educational organization crops out, we must deal with it in those two years of adolescence which are covered at the junior college level. It is now

²American Association of Junior Colleges, Commission on Junior College Terminal Education. *Journal of the American Association of Collegiate Registrars*, XVI (October, 1940), 63-64.

generally recognized that social intelligence and vocational efficiency complement each other in our society. A good citizen is vocationally efficient partly because he is socially intelligent, and he is socially intelligent partly because he is vocationally efficient."³

There has been from the earliest beginnings of the junior college movement a clear recognition, on the part of a few educational leaders, of the opportunity and obligation of these institutions to provide terminal education in both its general and vocational aspects. This has been equally true of both public and private institutions. However, these leaders have been in the minority and the extent to which this obligation has been met is quite a different matter. However, in the past twenty years quite rapid progress has been made. In 1921, 100 terminal courses were reported in the junior colleges of the United States; in 1924, 400; in 1930, 1,600; in 1935, 2,800; and in 1940, 4,000.

In a recent survey involving 241 public junior colleges, it was found that the total number of terminal curricula offered in all of them was 1,038, while the number of different terminal curricula was 360. California led all other states with 452 curricula in all its junior colleges, and Los Angeles Junior College led all other colleges with 31. Eighty-eight of the 241 junior colleges offered at least one terminal curriculum. Fifty-four offered only one; 49, two; 33, three; and 27, four. Twelve colleges offered twenty or more each.

Of the 360 different curricula, 143 were in professional and related services; 58 in manufacturing; and 33 in clerical occupations. Teacher-training curricula were offered in seventy-six different colleges; secretarial training in seventy-two; and nursing in forty-four. Terminal curricula are actually being offered in each of the thirteen divisions of occupations listed by the Bureau of the Census.

The types of terminal curricula reported in a survey of 308 junior colleges by Eells in 1938-39 are listed in Table 8.⁴ An examination of the table shows that curricula in the business field were offered by the largest number of institutions and had enrollments amounting to 35 per cent of the total. Public service and the

³ Carl E. Seashore, *The Junior College Movement*, pp. 5-6, 1940.

⁴ Walter C. Eells, *Present Status of Junior College Terminal Education*. (Washington, D. C.: American Association of Junior Colleges, 1944), p. 49.

TABLE 8
 TERMINAL CURRICULA OFFERED BY 308 JUNIOR COLLEGES IN 1938-39*

Curriculum	Institutions Offering Curriculum †	Students Enrolled
<i>General Cultural</i>	137	6,205
<i>Agriculture</i>	67	1,637
General	57	1,254
Floriculture	7	38
Forestry	32	381
<i>Business</i>	241	14,511
General	183	7,068
Accounting	11	490
Banking and Finance	4	42
Business Law	1	20
Hotel and Restaurant Management	4	53
Insurance	12	46
Management	1	42
Merchandising	7	290
Salesmanship	31	395
Secretarial	164	6,065
<i>Engineering and Technology</i>	90	4,449
General	51	1,550
Agricultural Engineering	2	59
Air Conditioning	2	10
Auto Mechanics	6	67
Aviation	41	1,107
Building Trades	8	142
<i>Chemical Engineering</i>	8	273
Civil Engineering	15	105
Drafting	3	30
Electrical Engineering	25	294
Geology	2	9
Mechanical Engineering	29	539
Mining	3	16
Navigation	2	7
Oil Technology	5	109
Radio Engineering	8	102
Welding	1	30
<i>Fine Arts</i>	162	3,406
Architecture	29	214
Art	97	1,354
Fashion Illustration and Costume Design	3	31
Interior Decoration	3	30
Music	141	1,409
Photography	10	56
Speech and Dramatics	20	312
<i>Health Services</i>	84	1,603
Civic Health	1	108
Laboratory Technology	6	46
Medical-Secretarial	33	460
Nursing	59	975
Physical Therapy	1	14

TABLE 8—Continued

Curriculum	Institutions Offering Curriculum †	Students Enrolled
<i>Home Economics</i>	106	1,387
<i>Journalism</i>	86	808
<i>Public Service</i>	182	6,500
Civil Service	2	8
Library Aids	47	197
Military Service	3	9
Physical Education	62	335
Police Officers	6	109
Recreational Leadership	19	132
Social Service	28	191
Teaching	138	5,519
<i>Miscellaneous</i>	49	965
Cosmetology	3	3
Mortuary Science	10	36
Parish Secretary	4	23
Religious Education	9	97
Printing	4	23
Terminal Field not stated	24	783

* Walter C. Eells, *Present Status of Junior College Terminal Education* (Washington, D. C.: American Association of Junior Colleges, 1941), p. 49.

† The statistics in this table are not complete since not all the institutions included in the investigation reported enrollments in all of the curricula they offered. The total number of institutions offering terminal curricula was 308. Fifteen of these did not report enrollments in any of their curricula while others reported enrollments for some but not all of their terminal curricula. Institutions which offer several curricula within one of the ten fields listed in the table are counted only once in this summary figure for the field as a whole.

fine arts follow closely in the number of institutions offering them. General cultural, home economics, engineering and technology, journalism, health service, and agriculture follow in this order.

The proportion of junior college students enrolled in terminal curricula has risen rapidly, especially in those institutions offering a wide variety of such curricula. In 1929, in nineteen public junior colleges, 20 per cent of some 44,000 registrants were enrolled in nonacademic or terminal curricula.⁵ Two years later (1931) 30 per cent of 90,000 registrants in thirty-two public junior colleges in California were so classified.⁶ In 1939 Lindsay, in an

⁵ L. V. Koos and F. J. Weersing, "The Student Body in Public Junior Colleges," *Junior College Journal*, III (October, 1932), 13-16.

⁶ H. Suzzalo, et al., *State Higher Education in California*, (Sacramento, Calif.: State Printing Office, 1932), p. 73.

analysis of more than 30,000 students in thirty-five California public junior colleges, found 46 per cent enrolled in terminal curricula.⁷

The experience of Pasadena Junior College with terminal curricula demonstrates the popularity of terminal curricula when they are made available. In 1926 only 4 per cent of the graduating class of that institution were enrolled in terminal curricula. The percentages for subsequent periods were as follows: 1929, 33 per cent; 1932, 40 per cent; 1935, 60 per cent; 1938, 67 per cent; and 1940, 72 per cent.

The states vary widely in the percentages of junior college students enrolled in terminal curricula. The percentages in states having ten or more junior colleges were as follows: Iowa, 8 per cent; Oklahoma, 8 per cent; Texas, 19 per cent; Minnesota, 28 per cent; Kansas, 44 per cent; Georgia, 46 per cent; and California, 50 per cent.⁸

GENERAL EVALUATION OF TERMINAL CURRICULA

One might infer from the numerical data presented above that there exists an extensive and vigorous development of terminal curricula in our junior colleges. The fact is, however, that many of these data are misleading. In many instances they seem to have been obtained by an analysis of junior college catalogs. Close students of the actual situation tell a somewhat different story. They have a strong suspicion that many of the terminal curricula reported are composed of the same old traditional subjects simply regrouped in a more functional order, but without any fundamental changes in objectives or content. As such, they are quite inadequate to serve the needs of terminal students. Hollinshead reports that "except in a few junior colleges the work currently offered in junior college terminal courses is not impressive—courses are largely traditional and nonfunctional—they must be reorganized on a functional basis of students' needs, interests, and abilities. . . . If junior colleges instead of trying to imitate the four-year programs would offer courses close to the interest of

⁷ F. B. Lindsay, "Enrollments in Various Curricula of California Public Colleges," *California Schools*, X (December, 1939), 303-08.

⁸ Walter C. Eells, *Present Status of Junior College Terminal Education* (Washington, D. C.: American Association of Junior Colleges, 1944), p. 49.

the student, and suited to his abilities, they would begin to occupy one of the most important places in American education."⁹

Schiferl believes that "examination of catalogs and correspondence with junior colleges indicates that some of the institutions which reported certain terminal curricula—especially music, nursing, journalism, and library aids—actually have only preparatory courses in the fields."¹⁰ At another point in discussing the make-up of the "core curriculum" in the general terminal curriculum, Schiferl makes the following statement: "In the majority of cases this central group of requirements is the same for terminal and transfer students. In many institutions, no difference is made in the work taken by the two groups."¹¹ There seems to be ample evidence that the standard courses to be found in many terminal curricula are predominantly preparatory rather than terminal in character and are so regarded by the instructors in charge.

Among the hindrances to the introduction of terminal courses in junior colleges the following are probably of most significance: (1) nonacceptance of such courses by members of accrediting agencies; (2) difficulty in obtaining qualified instructors; (3) difficulty in obtaining equipment; and (4) social discrimination between the two groups of students on the same campus. In view of the greatness and urgency of the need to be served by terminal curricula, these hindrances do not seem to be extremely significant nor impossible of being overcome.

The outstanding success of the few junior colleges which have wholeheartedly attacked the problem of providing vocational-technical instruction of a terminal character, and avowedly without sacrificing their regular college offerings, tends to cast doubt upon the opinion, commonly expressed by administrative officers of regular four-year colleges, that subcollegiate or nondegree instruction and regular degree instruction cannot be carried on successfully in the same institution.

TECHNICAL INSTITUTES

The term "technical institute" is the most common designation for all post-high school technical institutions which offer more

⁹ Byron Hollinshead, "Terminal General Education at the Junior College Level," *Association of American Colleges Bulletin*, XXVI (December, 1940) p. 570.

¹⁰ From Walter C. Eells, *Present Status of Junior College Terminal Education* (Washington, D. C.: American Association of American Colleges, 1944), pp. 67-68.

¹¹ *Ibid.*, p. 85.

intensive instruction along engineering lines than do the four-year colleges. It does not include trade schools which aim to develop manipulative skill or artisanship in the manual arts and crafts, nor those junior colleges only part of whose offerings are in technical subjects.

The curriculum of the technical institute is distinctly and avowedly terminal and equivalent in content to not more than two full years' work. The courses are more purely technical and less theoretical than those offered in engineering colleges, but they do usually give substantial instruction in the underlying sciences, drawing, economics, and English. The graduates of technical institutes are prepared to fill the rapidly growing need in modern industry for highly trained technicians, inspectors, supervisors, etc.

A recent report¹² on technical institutes gives the enrollment data presented in Table 9.

Instruction in a great variety of occupational fields is offered in existing technical institutes. Table 10 lists those offered during 1945-46 by publicly supported technical institutes. Privately endowed and proprietary technical institutes offered lists of similar proportions and variety. In all, a total of 180 different curricula were listed, 138 being in engineering and technological fields, 16 in agriculture, 6 in graphic arts, 4 in home economics, 3 in health services, and 13 in miscellaneous occupations.

A few of the state technical institutes offer more than two years of work. The California Polytechnic School offers two- and three-year curricula on the vocational-technical level and a four-year curriculum on the professional level, in both agricultural and industrial fields. Two state textile schools in Massachusetts offer two- and three-year diploma curricula in the textile technology field.

There is increased activity in several states in the development of technical institutes. New York State has announced its plans to expand the work of the agricultural and technical institutes now in existence and, in addition, to create a large number of new institutes of applied arts and sciences in several of the larger cities. Eleven of these will be in New York City and operated in coopera-

¹² Leo. F. Smith, "Annual Survey of Technical Institutes." *Technical Education News*, Vol. VI, No. 4, (May, 1947), (New York: McGraw-Hill Book Co.).

TABLE 9
ENROLLMENTS IN TECHNICAL INSTITUTES

Type of Institution	No.	Enrollment 1946-1947				Enrollment 1945-1946				
		Men	Day		Total	Evening and Special	Total Day and Evening	Day	Evening and Special	Total Day and Evening
			Women	Total						
Maritime and federal	9	1,289	.....	1,289	.....	1,289	2,257	.....	2,257
State and municipal	20	4,846	682	5,528	2,536	8,064	1,837	2,467	4,304	
Privately endowed	14	4,233	434	4,667	8,349	13,016	1,783	4,206	5,989	
Extension divisions of colleges and universities	6	1,270	1	1,271	5,640	6,911	Not reported	Not reported	8,086	
Proprietary	25	15,555	214	15,769	2,473	18,242	6,980	1,106	24,348	
YMCA schools	3	578	28	606	1,307	1,913	150	293	2,206	
Total	77	27,771	1,359	29,130	20,305	49,435	13,007	8,072	21,079	

TABLE 10
 TYPES AND NUMBER OF CURRICULA OFFERED IN STATE AND MUNICIPAL
 TECHNICAL INSTITUTES, 1945-46*

Curriculum	Number of Institutions Offering Curriculum	Curriculum	Number of Institutions Offering Curriculum
<i>Agriculture</i>		<i>Graphic Arts</i>	
Agriculture.....	7	Applied Art.....	3
Inspection and Mechanics..	1	Photographic Technology..	1
Crops Production.....	1	Printing and Publishing...	2
Dairy Mfg. and Prod.....	2	Total.....	6
Fruit Production.....	1	<i>Health Services</i>	
Meat—Animal Husbandry..	1	Laboratory Technology....	1
Ornamental Horticulture..	2	Practical Nursing.....	1
Poultry Production.....	1	Pharmacy.....	1
Total.....	16	Total.....	3
<i>Engineering and Technology</i>		<i>Home Economics</i>	
Aviation.....	31	Total.....	4
Air Conditioning and Refrigeration.....	7	<i>Miscellaneous</i>	
Auto Mechanics.....	3	Beauty Culture.....	1
Building Trades.....	11	Costume Design.....	1
Chemistry, Industrial.....	6	Ceramics.....	1
Chemistry, Textile.....	2	Food Administration.....	1
Civil and Structural.....	3	Commercial.....	1
Drafting and Design.....	6	Plastics.....	1
Electricity, Industrial.....	15	Engraving.....	1
Industrial.....	3	Jewelry and Watchmaking..	3
Machine Shop and Const..	7	Piano Technician.....	1
Mathematics.....	2	Oil Burner Maintenance...	1
Mechanical.....	10	Retail Distribution.....	1
Patternmkg. & Woodwkg..	4	Total.....	13
Radio and Electronics.....	21	Grand Total.....	180
Steam and Diesel.....	1		
Supervision and Production	1		
Textile.....	3		
General and Miscellaneous.	2		
Total.....	138		

* Leo. F. Smith, "Annual Survey of Technical Institutes," *Technical Education News*, (New York: McGraw-Hill Book Co.) (October, 1946), p. 2.

tion with the Board of Education; eleven more will be located in other large population centers of the state. According to Stoddard, when he was State Commissioner of New York: "These would offer curricula centering in (a) personal arts (health, hygiene, home management, character, recreation); (b) civic arts (history, government, community life and finance); and (c) a basic preparation for various crafts, vocations and sub-professions. . . . All

these courses should be practical, for the main idea is to provide a useful extension of secondary education."¹³

Connecticut is meeting the situation by expanding the offerings of its several existing trade schools, adding two full years of technical instruction. The revised institutions will be composed of a lower and a higher division. The lower division will offer courses for the training of machine operators, for occupational exploratory purposes, and for development of basic skills. In the upper division, opportunities will be given for training of a specialized character in such areas as art and design, aviation science, electronics, plumbing, heat treating of metals, tool and die making, physical sciences, and foremanship.

In Indiana, technical institutes were organized in 1943 as an extension service of Purdue University. These institutes are located in the Gary, Fort Wayne, and Indianapolis areas. Instruction is carried on only in the evening.

It is interesting, if not reassuring, to compare the current status of technical institutes in the United States and in Russia. Russia has 1,516 "technicums," not counting medical, pedagogical, and other secondary specialized educational institutions. These technicums enroll 422,565 students. Stipends are given to students and teachers are well-paid.¹⁴

JUNIOR COLLEGE DIVISIONS OF UNIVERSITIES AND COLLEGES

In universities and land-grant colleges the number of educational programs designed to terminate in the junior college years is not impressive. Where they do exist they are chiefly in agriculture and in secretarial fields. However, there has recently been considerable activity in the development of terminal programs in general education. The separation of junior and senior college is an expression of this, and has been increasing rapidly. Prominent examples are (1) General College of University of Minnesota, which offers a two-year curriculum in general education with specially designed courses; (2) General College at University of Florida, which is simply a division of the university where all stu-

¹³ George D. Stoddard, "Statewide Planning for Postwar Educational Needs." *The Annals of the American Academy of Political and Social Science*, Vol. 231, p. 138, June, 1944.

¹⁴ Semyon Plotkin, "Soviet Technicums," *Technical Education News*, Vol. IV, No. 4, June, 1945.

dents are enrolled during first two years, and in which the curricular offerings are in general education, but not exclusively terminal; (3) two-year elective curriculum in College of Arts and Sciences at University of Indiana, intended for those not desiring to finish the four-year curriculum. The courses are not especially distinctive. Other institutions deserving mention in this connection are George Washington University and the universities of Chicago, Nebraska, New Mexico, Southern California, Colorado, and St. Louis.

As a rule, our standard four-year colleges and universities do not adequately serve the needs of the large number of students who enter but never graduate; they merely enroll them all in the four-year degree curricula. The first two years' work in such curricula are usually preparatory to the third and fourth years. The general reason given for not providing distinctive junior college courses for this group is the contention that work of a subdegree character cannot be given in a four-year college without either lowering the academic standards of the regular degree curricula or making the terminal curricula too highly professional.

EXTENSION OF THE HIGH SCHOOL

A few cities have attempted to solve this problem of post-high school education by adding two more grades, thirteen and fourteen, to the regular high school. Where this has been done the tendency has been to include in these two years considerable vocational-technical training, placing in them much of the vocational training formerly offered in grades ten, eleven, and twelve.

The chief objection to this scheme is that while it may serve the needs of youth who would otherwise be thrown on to the labor market at too early an age, it does not provide for the education of adults of the community. Another limitation, of course, is the fact that so large a proportion of our high school communities, especially in some states, are much too small to supply enough thirteenth and fourteenth grade students to make an economical unit of attendance. A third is to be found in the lack of industrial, business, and service establishments in the smaller communities where work experience could be provided for those students majoring in these occupations.

TERMINAL EDUCATION ON THE HIGH SCHOOL LEVEL

Strictly speaking, high school education hardly comes within the area suggested by the title of this bulletin, but brief mention is made of it here because of the close relationship it bears to the general problem of providing occupational training of less than college grade.

There are three types of high schools in which occupational training is now being given: (1) the technical high school; (2) the industrial high school; and (3) the composite or comprehensive high school.

The technical high school movement has grown steadily during the past twenty-five years. The enrollment jumped considerably after the last war and rose sharply during 1941 and 1942. In New York the increase was from 309 in 1921 to 15,000 in 1942.

The curricula of technical high schools are planned so that graduates may enter college if desired, or go directly into industry. The objective of the schools is to give youth the preliminary preparation for their entrance into such occupational groups as technicians, servicemen, engineers' and architects' assistants, and production managers in industry. Cooperative training with local industries is a well-developed feature of some of these schools.

The industrial high schools, which are also known as trade schools, industrial schools, vocational high schools, etc., place chief emphasis on the development of manipulative ability and include in their curricula much less of the scientific and mathematical foundations of industrial operations than do the technical institutes and technical high schools. These schools usually offer both day and evening programs. The objective of the day programs is to prepare young persons for effective entrance upon wage earning in the skilled trades. The length of program is usually from one to four years, and graduation from the eighth grade is usually required for entrance.

The primary objective of the evening programs is the upgrading of the employed worker, to improve him in his present job and to prepare him for advancement. Frequently, through the cooperation of labor unions, organized instruction is given for apprentices.

In the comprehensive type of high school, only part of the student body is enrolled in the vocational curricula. These students

may take their academic subjects in classes with students in the regular college preparatory curriculum. It is on vocational instruction in this type of school that most of the federally aided vocational training in agriculture, homemaking, and distributive occupations is being expended at the present time.

AREA VOCATIONAL SCHOOLS

In order to meet the demand for vocational-technical training in rural areas where most of the youth live on farms or in small towns and villages, it has been suggested that "area schools" be established. These schools are intended to serve the educational needs of the farm youth who must earn their living in occupations other than farming, and for the majority of youth in small towns and villages who will enter manual or industrial occupations of some type. In order to accomplish this end, such schools must be made readily accessible, in point of distance to be travelled and costs incurred, to the youth who need this type of instruction.

The term "area" designates an intermediate educational administrative unit larger than a single local community and smaller than a state. It indicates a school administrative unit which provides certain educational facilities for a group of communities, an entire county, a group of counties, or a distinctive area which might occasionally include parts of two or more adjacent states.

Recently attempts have been made to have the federal government enact legislation providing for the establishment and support of a system of area vocational-technical schools. Opinions differ widely as to the part the federal government should play in the administration and financing of these schools, which partly explains the delay in legislative action. It is extremely likely that some definite program will finally be adopted, and in some states plans are being made to make it possible to take immediate advantage of any financial aid which may be forthcoming from the federal government for this purpose. If the individual states do not move aggressively to provide the type of educational services needed, either individually or in cooperation with the federal government, it is not unlikely that the latter will inaugurate and administer a separate system of area schools.

In this chapter we have attempted to bring into focus the major types of institutions operating today in the particular area of post-high school education, which is the central problem of this publi-

cation. Our descriptions of them have necessarily been incomplete, but perhaps enough information has been presented to impart some appreciation of their inadequacy at present to serve the urgent needs of education today. Not only are the institutions that exist too few in number and too unevenly distributed to be accessible to all who need their services, but the instructional programs most of them offer are not well adapted to the educational needs which exist.

While probably most of them can be given credit for serving more or less adequately at least a small part of the educational needs of a portion of their respective constituencies, it is doubtless true that with very rare exceptions, none of them serves adequately all the post-high school educational needs of all the people.

In order to make the needed types of post-high school education accessible to all who need and can profit from it, radical changes and extensions must be made in existing institutions or an entirely new type of educational institution must be created and distributed widely over the United States. The ideal must be to reach all persons of post-high school age with educational facilities adapted to their needs.

The Educational Policies Commission of the National Education Association proposes two methods of achieving this objective. One involves the addition of two more grades, thirteen and fourteen, to the high school, while the other involves the creation of a new and separate educational unit or division. They advocate that these new institutions be called "community institutes."¹⁵ The term "peoples' colleges" has also been suggested by others as being indicative of the nature and purpose of these new institutions. Still others would call them junior colleges, even though they would be vastly different from the typical junior college of today. Since the term "community institute" has been approved by the National Education Association, we shall use it in order to facilitate further references to these institutions.

In the next chapter, the attempt is made to discuss briefly some of the more important principles and standards which should be considered in the organization and administration of the institutions which are needed, no matter what they may be called.

¹⁵ Educational Policies Commission, *Education for All American Youth*, Washington, D. C., National Education Association, 1944.

Some Proposed Principles and Standards

We trust that those who have followed our thinking thus far have come to at least these four conclusions: (1) there is a real and urgent need for the sort of post-high school education we are advocating; (2) present educational facilities fall far short of making this type of education accessible to all of the people who need it; (3) the lack of appropriate educational facilities results in literally hundreds of thousands of our youth entering four-year colleges and universities whose curricula are not at all adapted to their educational interests, capacities, or needs, and from which they never are graduated; and (4) either a new unit or division must be created within the framework of our public education system, or instead, very radical revisions and expansions must be made in the curricula of some of our existing educational institutions, if the educational needs of a large proportion of our people, perhaps the majority, are to be served.

It remains for us to discuss the problems involved in the widespread establishment and administration of this new educational unit. It should be apparent at the outset of our thinking on these phases of our problem that these proposed community institutes, while seeking the same general objectives and embodying the same educational principles essential to their proper functioning, will necessarily vary considerably in detail. This is so because of two main reasons: (1) The different communities in which they will be located will vary greatly in such essential characteristics as size, wealth, resources, occupational activities, and educational status of inhabitants; and (2) one of the very first principles to be recognized is that these proposed institutions must serve the educational needs which exist in their respective service areas.

It is, therefore, not our purpose to describe a model institution which must be duplicated in all its details over the whole country. Rather we shall attempt to present certain basic characteristics and principles which should be incorporated into any plans for

the organization and development of these proposed community institutes. These characteristics and principles are in harmony with modern democratic philosophy of education and have been substantiated by the experience of those existing institutions which are pioneering in this area of educational service. They will be discussed in their relation to curriculum, administration, finance, location, student body, and other significant aspects of post-high school education.

THE CURRICULUM

The curriculum, in its broadest sense, includes (1) what is taught in any educational institution and (2) how it is taught—the content and the method. As such, it is the most important attribute of any educational program and should receive major attention on the part of those who plan and administer our educational institutions. The designing of curricula for post-high school institutions of the type we are advocating is by no means a simple problem. It cannot be made an exact and strictly scientific procedure, but it does require the exercise of sound judgment based upon a few basic principles, and upon facts derived from an analysis of comprehensive surveys of conditions in all aspects of individual and community life. This statement also implies that the local community institute should have legal authority to design and prescribe its own curricula and courses.

If the needs of all youth and adults are considered, the following general types of curricula will be required for the typical community:

1. Preparatory (preprofessional)—consisting largely of academic subjects required for entrance into senior college or professional schools.

2. Terminal—designed as preparation, not for subsequent courses, but for immediate entry into occupational fields. Terminal curricula are of two types: (a) general or cultural, and (b) vocational or technical.

3. Adult education—designed to increase the cultural, social, civic, and vocational competence of adults who are already in full-time employment.

The curriculum offerings of the community institute must make provision for the following classes of students: (1) full-time

students, both preparatory and terminal; (2) part-time students, youth who are working at regular employment and cannot attend full time; and (3) adults who can attend only in the evenings or in slack periods.

Curricular arrangements must be flexible and readily adaptable to changing conditions and needs. This applies more to terminal than to preparatory curricula. The latter will cover the work of the first two years of the standard academic four-year degree college curriculum. This work is fairly well standardized and is set forth in the entrance requirements by the higher institutions. Specific terminal curricula will need to vary in length from three months to two years for regular full-time students, depending upon the character and level of the occupation for which the trainee is being prepared. In practically all semi- or subprofessional fields, the length of training should be the full two years beyond high school.

Courses for part-time students will usually be of short duration and deal with quite specific topics or subject matter areas. Courses for adults will usually take the form of classes, lectures, forums, discussions, etc. Community institutes must stand ready to offer instruction in any area of human knowledge, and on a level and to the extent indicated by the real needs of significant portions of the service area. They must develop year-round programs with very flexible regulations as to time and requirements for entrance.

Terminal education should be both general and vocational in character. There is fairly common agreement that instruction in citizenship, cultural appreciation and understanding, and healthful living should be part of the education of every person, regardless of the occupation he follows. This is what is usually meant by the term "general" education. This principle of generality should be applied to terminal vocational curricula. While these should emphasize preparation for specific occupations, they should also include considerable amounts of basic instruction in the sciences and humanities for the purpose of developing flexible social intelligence and an adequate philosophy of life in every student.

The proper proportions of general and vocational instruction to be incorporated in any given terminal curricula will depend upon several factors, and will not be the same for all curricula or for all students in the same curricula.

In the Los Angeles Junior College, an average of about 40 per cent of the time is given to vocational subjects, 40 per cent to general subjects and 20 per cent to electives.

This same distribution has been prescribed in the accreditation standards for junior colleges adopted in 1939 by the Maryland State Department of Education. The wisdom of "freezing" any distribution of general and vocational subjects in the terminal curricula of junior colleges in a whole state is, in our opinion, very questionable.

Many variations from the Los Angeles 40-40-20 pattern are to be found. An analysis of the composition of 336 junior college curricula revealed median percentages of 51.5 for vocational subjects, 28.6 for general subjects, and 14.6 elective.

If the work of the last two years of high school were properly integrated with the post-high school program of the community institute, it could be made to provide an adequate core of general education. This, however, would not be of the traditional type of high school curricula designed mainly to meet college entrance requirements, but should rather be adjusted to serve the needs, interests, and abilities of prospective terminal students of the community institutes. Its main emphasis should point toward intelligent citizenship, consumer education, and the more intellectual types of recreational activities. With the provision of terminal courses in the post-high school years, much of the vocational instruction now being attempted in high school could be discontinued, with substantial advantage to all concerned.

Even the more strictly vocational phases of terminal education should be broadly conceived and include the economic, social, and cultural aspects of specific vocations and those closely related to them, as well as the more purely technical aspects.

There are those who, while admitting that a real and urgent need exists for both general and vocational education of the type we have described and for instruction on both the degree and the nondegree levels, believe that the two types cannot be given successfully in the same institution. We doubt the validity of this belief. While specific examples of failure to combine general and vocational education can be pointed out, so also can examples of conspicuous success. The instances of failure can in many cases be

traced to the hostile attitude of faculty members, most often toward vocational instruction. This attitude in turn is usually based not upon fact but rather upon prejudices, an outmoded educational philosophy, and an unwarranted worship of traditional standards and administrative procedures.

The experience of those junior colleges in California in which a large amount of terminal curricula of a vocational-technical nature is being offered, along with regular college preparatory curricula, affords ample evidence of its practicability. Enrollments in such institutions have increased much more rapidly than in those with only academic curricula. There seems to be no evidence that either type of curricula has suffered thereby.

COOPERATIVE WORK AND SCHOOL EXPERIENCE

Cooperative arrangements between the community institute and the business, industrial, and professional establishments in the community, whereby youth attending the institute could be employed part-time in bona fide work, would seem to be particularly well adapted to terminal education, especially of the vocational-technical type. The many values of cooperative work-school experience are recognized today, and we may well expect a large expansion of it in the future. Through such experience youth learn first hand what makes his community "tick"; he is given opportunity to test his interests and abilities, to apply some of the knowledge and technics he is learning at school, and to acquire the sense of responsibility which full participation in real life activities will give.

Cooperative work and school experience also can reduce but not eliminate the expense of maintaining shops and laboratories at the institute in which students may bring to the level of proficiency the skills and technics of the occupations for which they are preparing. However, this will not eliminate the need for some scientific and technical equipment in the community institute for instructional purposes.

GUIDANCE

Two general types of services must be provided in the curriculum of the community institute: (1) instructional and (2) guid-

ance. The preceding pages have dealt with the first. Only a brief reference will be made to the second.

Guidance—personal, social, moral, and vocational—should be an important part of the offerings of the community institutes, especially for the full-time and part-time students. Guidance in all the areas mentioned is rapidly becoming recognized as a major responsibility of the education of youth at all levels. The necessity for guidance has probably never been as apparent as at present, and perhaps at no other age level is it more urgently needed than in the post-high school years.

Vocational guidance is particularly essential if terminal curricula are to be successful. Pasadena Junior College, in which terminal curricula are featured, has two deans or directors of guidance, six full-time and eight part-time counselors. Its student body numbers 6,700, hence the large guidance staff; but even the smallest institute must give vocational guidance. At Pasadena, parents are invited to attend the first interview with each student. It has been found that when all facts are presented to them two-thirds of the students and parents select terminal curricula.

This is somewhat near the correct proportion and is much higher than when adequate guidance is not given. About 75 per cent of junior college students do not enter higher institutions, and for them terminal curricula would be more appropriate.

The placement and follow-up of graduates in appropriate positions should be regarded as vital parts of the guidance program of the community institute.

So much for the philosophy of terminal education. The specific curricula which should be offered in any particular community institute can only be determined by a careful survey of the cultural, social-civic, occupational, and recreational activities, opportunities, and needs of the inhabitants within its service area. Some of these needs will fall into the category of "general" education and involve instruction in music, art, literature, and the humanities; in current economic, social, and political problems; in health and physical education. Some will be classed as vocational and will call for appropriate instruction in various aspects of agriculture, business, engineering and technology, trades and industry, fine arts, home-making, and public service.

The nature and extent of the educational needs having been determined, the next step in curriculum construction is the determination of the subject matter content as indicated by these needs, and the organization of it into appropriate courses. This is a task for well-trained educators, and any further discussion of it is beyond the purpose of this volume.

ORGANIZATION AND ADMINISTRATION

Probably the most basic principle to be advocated here is that the institutions in question should be component parts of the public education system of the state and be well integrated with the other parts of it. This principle has not always been followed. As a result, several different plans of organization and administration may be found throughout the nation in the existing junior colleges and technical institutes.

There is quite general agreement among students of this problem that these post-high school institutions should be administered by the local boards of education rather than by state authorities. Where the local school district is large and populous enough to support an effective junior college or community institute without drawing students from outside the district, the same school board which administers the other levels of the local school system should be in control of any post-high school facilities in the district.

This insures a greater amount of integration within the system and a curriculum more nearly adapted to the needs of the community than does any other method of administration. It is also feasible and perhaps desirable under such conditions to provide the desired educational facilities by adding two more grades as post-high school educational facilities, and by offering in these two grades the types of instruction we are advocating. A few cities have done this, some of them reorganizing their whole system on a 6-4-4 basis. There is perhaps one weakness in such a plan. Facilities for adult education might be more likely to be provided in a community institute or junior college than in a high school.

In most of our states, however, the great majority of high school districts are too small in population and in wealth to support a program of post-high school education appropriate to the needs of their inhabitants, and accessible to all of them. In fact, the majority as they now stand are too small to provide traditional

high school facilities on anything approaching an adequate and economical basis.

— Current trends in the reorganization of school districts in a few of our states give grounds for the hope that some day all of the existing school districts which are too small to ever become effective economical units will be discontinued as such and be absorbed into larger units of attendance and administration. If there were good grounds for believing that this would occur within a decade or two, we would be justified perhaps in postponing the creation of separate post-high school institutions until the desired reorganization had been consummated. There are, however, powerful forces operating against school district reorganization, and while we may expect to see substantial progress in the relatively near future, it would be too visionary to expect it to happen soon enough to affect all, or even a majority, of the present generation of youth and adults.

Therefore, it would seem expedient to proceed with the establishment of the proposed post-high school facilities immediately on what may prove to be a temporary or intermediate basis, even at the risk of creating problems which would not be likely to occur under an ideal but less practical plan.

There are two other bases for the organization of the community institute: (1) union districts—special community institute or junior college districts, created by merging two or more high school districts; and (2) the county.

In the first plan, which is widely used in California, all parts of the newly created districts share in expenses of maintaining the institute, which is, of course, open to all inhabitants of the new district on the same basis. An elected board, representative of the enlarged district, administers the new institution. This plan suffers from the fact that the new district and its board overlap the constituent districts and their respective boards. This often is productive of friction and inefficiency, and operates against the desired integration of the high school and post-high school programs. It should not be taken for granted, however, that the problems arising from this plan of organization cannot be solved, or that the disadvantages overbalance the advantages. In fact, under certain conditions the formation of union districts may be the only prac-

licable plan available for providing post-high school facilities. Moreover California provides many successful examples of this plan of organization.

In states operating under a county unit system, in which secondary education in the whole county is pretty well integrated around one or more high schools accessible to all the youth of the county, the needed post-high school facilities may be provided by extending the offerings of one or more of the largest and most strategically located high schools. Since there is only one board of education for the whole county, the problem of overlapping districts and boards would not exist.

There is yet another plan of making post-high school education available to all the youth of the state. This plan does not involve any legal or organic reorganization of districts, but provides for (1) the establishment of post-high school facilities in the larger population centers of the state, to be administered as parts of the public school systems of these centers; (2) the privilege of enrollment in these facilities for youth living outside these larger centers in other school districts; and (3) arrangement for the payment of tuition, either by state scholarships or by the local districts in which the youth reside. This is the plan used in many of the states at present to make high school education available to eighth grade graduates of rural elementary districts not maintaining high schools. While considerably better than no plan at all, this has many disadvantages and certainly cannot be regarded as a satisfactory and permanent solution to the problem on either the high school or post-high school levels.

ACCESSIBILITY

Post-high school education of the type we are advocating must be made readily accessible to all of our people. Accessibility is affected by three closely related factors: (1) distance between the institution and the homes of those attending; (2) transportation facilities available; and (3) the cost of attendance to the individual student.

DISTANCE FROM INSTITUTION

Obviously, a considerable difference exists between the cost of living at home and that involved in living away from home, where

room rent and board must be paid for in cash. This difference may often be sufficient to prevent capable and ambitious persons from enrolling. These institutes, therefore, should be close enough to the homes of the students to enable them to live at home. Methods of transportation available and the distance that can be travelled economically will vary considerably by states. In most states the majority of the students would probably have to travel by automobile and provide their own transportation. Probably 30 miles each direction (60 miles round-trip) is the maximum distance which persons could be expected to drive each day. For most persons, travelling this distance daily would involve too much expense, unless plans could be effected for several persons to use one car. To travel daily distances much in excess of 30 miles would involve the expenditure of more time and money than the majority of our youth could afford.

TRANSPORTATION FACILITIES

The types of transportation facilities which would be employed by students attending a system of widespread and accessible post-high school institutions will, of course, vary greatly over the nation. In thickly-populated urban areas, street cars, railroads, and bus lines would serve a large proportion of students. In rural areas, privately owned facilities, in many cases the family car, would be the common mode of transportation.

The conditions of primary and secondary roads would then become a factor of major importance. While in certain states the poor condition of rural roads would prove quite a handicap to regular attendance, in others this would not be an important factor. In all states we may well expect considerable improvement in the road situation in the next decade, as good roads are needed for many other purposes.

COST OF ATTENDANCE

The central principle to be emphasized here is that the cost of attendance to the individual student, in actual cash outlay, must be made as low as possible. There are those who, deeply conscious of the need for making post-high school education available to all our youth, insist that all costs incidental to attendance should be paid by the public. While such an investment of public funds

might prove in the long run to be a thoroughly sound one, both economically and socially, we doubt that it will become a reality in the near future. We are taking the position, and we hold it to be an immediately practicable one, that attendance at post-high school institutions of the type we are discussing should be tuition-free to all students.

It must be recognized that even to attend tuition-free educational institutions involves considerable cash expenditures for travel, books, clothes, and other incidental items. Moreover, even though the cost of these items might represent a quite small proportion of the total cost of education, it is large enough to prevent some very worthy youth from attending. However, it also must be kept in mind that "too much help extinguishes the soul" and that if the privilege of attendance is sold too cheaply, it may also be lightly regarded.

In most states at present, a quite substantial share of the cost of operating junior colleges is derived from tuition fees paid by students. The great increases in enrollment, however, have been in those states in which attendance has been relatively free. It would appear that no great expansion of this area of public education can be expected while students are required to bear any more than a very nominal share of the financial support of the institution in question.

The tendency at present is to regard post-high school education as simply an extension of secondary education and as such entitled to public funds for its entire support.

SIZE

The number of students enrolled in an educational institution is the measure of size most commonly employed. The minimum enrollment, consistent with a desirable level of economical operation, for the type of institution we are advocating has been set at from 175 to 200 full-time students. Of course, the institutions could be operated, and are in fact being operated, with much smaller enrollments than 200, but the cost per student increases rapidly with decreases in enrollment. This is especially true if varied curricula adapted to the needs of all youth are offered. There will be instances in sparsely populated areas where, in order to make post-high school education accessible, it will be necessary

to tolerate smaller enrollments and higher costs per student than would otherwise be considered permissible, but this should not occur until close study of all the factors in the total situation establishes the fact that to obtain greater enrollment one or more considerations of even greater importance than economy of operation would have to be sacrificed.

THE STUDENT BODY

It has already been suggested that the proposed institutes should serve the post-high school educational needs of all persons in their respective service areas. It is further suggested that they might provide instruction in trades and industrial work for certain boys in the high school grades who are so deficient in intellectual capacity and interest as to render them incapable of profiting from the regular high school curriculum. Such students are destined to leave school as soon as the law allows, and for their own good and that of society they should enter regular employment in some kind of manual work as soon as possible after leaving school. Most of them could be prepared to render some useful service in a manner acceptable to employers if they were appropriately trained for a specific type of manipulative activity. The type of educational experience they require could probably best be given in connection with the vocational-technical program of the proposed institute.

With the exception of this relatively small group, the student body would be composed of two main groups: (1) youth from 18 to 25 years of age, and (2) adults of all ages. Many of the latter will not have completed high school but will be mature, intelligent individuals, capable of profiting from instruction.

The educational needs and interests of these two main groups will, of course, vary greatly. The majority of the youth will be interested mainly in instruction designed to assist them in choosing, preparing for, and entering upon desirable occupations. Even those who expect to enter professions which require extended training well beyond the institute level will be interested in receiving in the institute that part of their required preparation which can be given at the junior college level. Others may have occupational plans which require only one year of systematic specialized training to prepare them for entrance to a regular job.

Youth have, of course, interests and needs other than the strictly vocational. The majority will need personal, social, and recreational guidance and instruction. They will need also to increase their civic and political intelligence and to participate in group activities of many types.

Members of the adult groups will have occupational needs to be served but not those involved in choosing and entering upon their life work. Rather, their vocational interests will be concerned with increasing their competency in their current occupations. Their major interests and needs will probably be in fields other than vocational, i.e., in economic, social, and political problems of the day and in recreational activities.

LOCATION

These community institutes should be distributed widely throughout the nation and throughout each state in order that they may be readily accessible to all inhabitants. They should also be located in the larger centers of population, insofar as it is practicable to do so without violating the principle of accessibility. Some of these centers of population may not be large, but they should be the largest centers in their respective districts. In other words, each one should be the town or city which provides for the people living in the area surrounding it those necessary goods and services which they cannot obtain in their smaller villages and neighborhood centers. Each one is the center of the larger multi-community areas which are now in the process of taking more or less distinct form.

The reasons for this are obvious. First, placing the institute in the larger centers of population insures larger enrollments since they will be more readily accessible to more people. Second, people are already acquiring the habit of going to these larger community centers for medical, legal, banking, and shopping services, and for their recreational activities. In the third place, effective vocational-technical instruction demands that opportunities be made available for students to observe and to obtain practice in the occupations for which they are preparing.

FINANCE

The fundamental principle in regard to the financing of post-high school education has already been enunciated in an earlier

section. It must be tuition-free, at least for all youth. Otherwise, many of those who need it most will be unable to obtain it. This implies generous support from the state or federal governments or from both, since real property, which is practically the only form of wealth local districts can tax, is already carrying heavy tax burdens. This is especially true in those states in which the major portion of the financial support for the public school system comes from the local property taxes. In such states, the full cost of the community institutes might well be financed from state funds, supplemented by such monies as may be derivable from federal sources for the purposes.

In those states in which a large share, 50 per cent or more, of the cost of public education is already being borne by the state, the present plans of school support could be extended to cover post-high school education. California, which far excels any other state in the number and enrollments of its junior colleges, has seemingly a quite successful plan of state support. There, the state pays a lump sum of \$2,000 per year to each properly established junior college, together with \$100 for each full-time student enrolled (\$120 after 1947). This amount approximates 50 per cent of the entire cost per student of a really first-class program. This plan gives a small college generous assistance, enabling it to carry on a creditable program of post-high school education at a cost to the local district of \$100 or less per student. On the other hand, a wealthy community may carry on as elaborate a program as it wishes to support by increasing the proportion of local support.

Using the California plan of financial support as a basis and an average of \$100 as the amount of state aid per student, we have attempted to estimate the total cost to each state of supporting a fairly adequate system of post-high school education of the type recommended.

NUMBER OF INSTITUTIONS

It was first necessary to estimate the number of students who might be expected to attend these community institutes if the curricula offered were well adjusted to their needs. This number has been set by some students of the problem at 3,000,000 youth of post-high school age. This is roughly 50 per cent of present high school enrollment and over ten times greater than the present

junior college enrollment. Others expect the maximum enrollment in junior colleges to equal one-third of the current high-school enrollment. President Stoddard¹ of the University of Illinois has stated that if a full program of tertiary education (his term for the type of post-high school education we are advocating) were established along mental, recreational, artistic, and vocational lines, 80 per cent of our high school graduates would enter and a very substantial proportion would finish a complete two-year program. The adults attending evening classes and part-time students are not included in these estimates, but they might total as many as the number of full-time students.

It is our opinion that these estimates are based upon the most favorable conditions imaginable and are much higher than may reasonably be expected. Our estimates of enrollments, the number of institutions needed, and the probable cost to the states, assuming that the California plan of financial support is adopted generally, are presented in Table 11. These cover the cost for full-time students only.

The following assumptions, based largely upon past experience and allowing for reasonable expansion, were used as bases for these estimates: (1) The maximum total college enrollment, at least for some years to come, will probably not amount to more than 27 per cent of youth 18 to 21 years of age (only one state, Utah, has approached this); (2) 36 per cent of the total college enrollments is in the freshman year; (3) 60 per cent of the freshmen will continue in the sophomore year; (4) about 33 per cent of the total college enrollment will be in the first and second years of the junior colleges, and 67 per cent will be in the four-year colleges.

These assumptions and the estimates based upon them are the best we have been able to reach. They are only approximations which will vary from state to state, but they are probably accurate enough to serve as preliminary estimates of cost. More accurate estimates based upon local surveys must be made for each state by persons responsible for the planning and development of post-high school education.

Furthermore, the ultimate development anticipated will not be reached quickly. Probably few, if any, of the states will obtain

¹ George D. Stoddard, *Tertiary Education* (Cambridge, Mass.: Harvard University Press, 1944), 36 pp. (The Inglis Lecture, 1944).

TABLE 11

ESTIMATES OF THE NUMBER OF POST-HIGH SCHOOL INSTITUTIONS NEEDED, THEIR PROSPECTIVE FULL-TIME ENROLLMENTS AND THEIR COST TO THE STATE. (BASED UPON A STATE GRANT OF \$2,000 FOR EACH INSTITUTION, PLUS \$100 PER YEAR PER FULL-TIME STUDENT)

State	Youth 18-21	Prospective Enrollment			No. of Junior Colleges Needed	Cost to the State
		Total	4-Year College	Junior College		
New York.....	908,000	250,000	166,500	83,500	75	8,500,000
Pennsylvania.....	747,000	206,000	137,500	68,500	60	6,970,000
Illinois.....	543,000	149,000	99,300	49,700	55	5,080,000
Ohio.....	488,000	134,000	89,500	44,500	50	4,550,000
Texas.....	482,000	133,000	89,000	44,000	50	4,520,000
California.....	448,000	123,000	82,000	41,000	45	4,190,000
Michigan.....	374,000	104,000	69,300	34,700	45	3,550,000
North Carolina.....	304,000	83,000	55,300	27,700	45	2,860,000
Massachusetts.....	302,000	83,000	55,300	27,700	45	2,860,000
New Jersey.....	301,000	83,000	55,300	27,700	45	2,860,000
Missouri.....	255,000	70,000	46,700	23,300	35	2,390,000
Georgia.....	253,000	70,000	46,700	23,300	35	2,400,000
Indiana.....	240,000	66,000	44,000	22,000	35	2,270,000
Alabama.....	225,000	62,000	41,300	20,700	35	2,140,000
Tennessee.....	225,000	62,000	41,300	20,700	35	2,140,000
Wisconsin.....	218,000	60,000	40,000	20,000	35	2,070,000
Virginia.....	214,000	59,000	39,000	20,000	35	2,070,000
Kentucky.....	216,000	59,000	39,300	19,700	35	2,040,000
Minnesota.....	201,000	55,000	36,700	18,300	35	1,900,000
Louisiana.....	183,000	50,000	33,300	16,700	35	1,740,000
Iowa.....	177,000	49,000	33,000	16,000	35	1,680,000
Oklahoma.....	176,000	48,000	32,000	16,000	35	1,680,000
Mississippi.....	171,000	47,000	31,000	16,000	35	1,670,000
South Carolina.....	167,000	46,000	31,000	15,000	35	1,570,000
West Virginia.....	152,000	42,000	28,000	14,000	30	1,460,000
Arkansas.....	150,000	41,000	27,000	14,000	30	1,460,000
Florida.....	136,000	37,000	25,000	12,000	25	1,250,000
Maryland.....	133,000	37,000	25,000	12,000	25	1,250,000
Connecticut.....	126,000	35,000	23,000	12,000	25	1,240,000
Kansas.....	125,000	34,000	23,000	11,000	25	1,150,000
Washington.....	118,000	32,000	21,000	11,000	25	1,150,000
Nebraska.....	93,000	26,000	17,000	9,000	20	940,000
Colorado.....	79,000	22,000	15,000	7,000	15	730,000
Oregon.....	73,000	20,000	13,000	7,000	15	730,000
Maine.....	58,000	16,000	11,000	5,000	12	524,000
Rhode Island.....	52,300	14,000	9,000	5,000	11	522,000
North Dakota.....	49,000	13,600	9,200	4,400	11	462,000
South Dakota.....	48,000	13,000	8,700	4,300	10	450,000
Utah.....	44,000	12,000	8,000	4,000	10	420,000
New Mexico.....	40,000	11,000	7,300	3,700	9	388,000
Idaho.....	40,000	11,000	7,300	3,700	9	388,000
Montana.....	41,000	11,000	7,300	3,700	9	388,000
Arizona.....	37,000	10,200	6,800	3,400	8	356,000
New Hampshire.....	33,500	9,200	6,100	3,100	7	324,000
Vermont.....	24,600	6,800	4,500	2,300	5	240,000
Delaware.....	19,000	5,200	3,500	1,700	4	178,000
Wyoming.....	19,000	5,200	3,500	1,700	4	178,000
Nevada.....	7,200	2,100	1,400	700	2	74,000
Totals.....		2,621,200	1,748,800	872,400	1,346	89,932,000

the passage of such legislation as is needed in less than five or six years. Probably not more than one-third of the institutes would be established in the two-year period following the passage of the enabling legislation, and these will not reach their maximum enrollment within ten years. Assuming that the development of the remaining two-thirds of the institutes will proceed at this rate, it may be predicted that one-third of the total cost will be called for in about ten years; two-thirds in about fifteen years, and the total not before twenty-five or thirty years.

If, when they are in full operation, these institutions offer reasonably full programs adapted to the cultural and vocational needs of employed youth and adults, they may expect enrollment in these programs equal to or greater than the full-time enrollment. Assuming that the typical part-time student will carry about one-third of a full program and at a proportionate cost, 33 per cent of the amount of the costs listed in Table 11 should be added to obtain the total cost to the state of maintaining the proposed institutions.

There is another aspect of this cost problem which is worthy of consideration. While the plan we advocate would call for increased expenditure on the part of the state, this might not be so large as at first believed. State institutions of higher learning are already over-crowded and in order to accommodate the students desiring entrance, large expansion of both physical plant and faculty will be necessary. Probably as many as two-thirds of the students in these institutions are in the freshman and sophomore years. The majority of these could be given their first two years of college work in junior colleges or institutes located near their homes at much less cost both to the state and to the students' parents. If this were done, the state colleges and universities would not need to expand their present facilities, but could devote them to instruction in the senior college and graduate levels. Several state universities have already adopted variations of this plan under the stress of increasing enrollments, and it may well become the rule for the future.

The estimates in Table 11 refer to full-time students. If we add one-third more to cover cost of part-time and adult education the ultimate annual expenditure will be approximately

\$120,000,000 by the states and an equal amount by the local districts. This is admittedly a large sum, but opportunity will be afforded hundreds of thousands of youth and adults to enrich their lives and to increase their civic and occupational efficiency. We estimate that 870,000 youth will be in full-time attendance and an equal number of youth and adults in part-time attendance at these 1,346 institutions. All will live at home. The cash expense of attendance to the student will be small. All who have ambition and the ability to profit from instruction will be free to attend. The gain to the United States, and to the world, in increased material wealth, in enlightened leadership, in all important aspects of our community and national life, in the enrichment of the life of the common man, and in widespread human welfare will be enormous and beyond computation.

We are told that another world war would spell the doom for this present civilization and that education of the proper type and on a world basis is the only means of preventing another war. The total annual cost of maintaining the educational institutions we are advocating is considerably less than the cost per day to the United States of World War II.

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