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# THE TREND OF COLLEGE ENTRANCE REQUIREMENTS 1913-1922

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# THE TREND OF COLLEGE ENTRANCE REQUIREMENTS, 1913–1922

## CHAPTER I

## INTRODUCTION

Among the problems in education in the United States few are more important than that involved in the articulation of secondary and higher education. This is especially true during the past few years, because the rapid development of the public high school and the general demand for it to serve equally well a dual function, that of preparing immediately for life as well as preparing for college, have greatly increased the complexity of the problem. In the early days our secondary schools, influenced largely by European practice, were looked upon as institutions the chief function of which was to prepare students for college. Later, when the Colonies began to feel a certain unity and independence of European ties, there came a demand for a more liberal and extensive education for those individuals who could not attend college. This demand resulted in the establishment (about 1750) of the academy. Although originally established largely as a noncollege-preparatory school, it nevertheless developed into what Inglis calls the "preparatory school par excellence." With the appearance and development in the academy of this college preparatory function came the gradual disappearance of the Latin grammar school. About the time the Latin grammar school finally disappeared the first public high school was established. This school was established largely to furnish higher education than that furnished by the elementary school to those who were not expecting to attend college, although at the same time it is quite probably true that all early high schools made provision for preparing students for college. The zenith in the development of the academy was reached about 1850, but it was not until about 1885 that it was overshadowed by the public high school.

With the development of the public high school and the disappearance of the academy came a movement to relate the former more closely to the college. This movement has been especially pronounced during the past two or three decades. There has resulted a growing recognition of dependence and responsibility between the

high school and the college which has been beneficial to both. Each has made concessions. The college has liberalized its entrance requirements, and the high school has increased its standards. while both have enriched their curricula.

What changes have occurred, and to what extent they have been made, should be important factors in determining not only present practice but also future policies. Particularly a knowledge of recent trends will be valuable to the curriculum maker of the high school and college alike. Whatever is, is not necessarily right; but whatever is, is in the first place the point of departure toward whatever should be; and in the second place a comprehensive knowledge of present practice should be enlightening to those who lag and should give encouragement to those who lead.

The literature of college entrance requirements is very voluminous. A part of it is scientific, a large part purely opinion, and nearly all of it is popular. It is rather startling that such an important field as the articulation of secondary and higher education has been made so little the subject of scientific study. The dropping of Latin, or some other subject, from the list of subjects required for entrance by some large institution, especially if an old one, is hailed with glee by the anticlassicist, with groans by the classicist, and with a ready pen by the paragrapher on college entrance requirements. Doubtless such an action on the part of a large university does have a great influence on the smaller institutions throughout the country. To just what extent no one can say. It is our opinion that such publicity always exaggerates the true resultant situation as it exists throughout the length and breadth of the country. The desire to discover actual practice, as opposed to conjecture, is the motive behind this study.

Although it is recognized that all colleges are not equal in ideals, equipment, or product, nevertheless all colleges (accredited or recognized as such by the proper authorities) are colleges, and the interest of this study is in American colleges as a whole rather than in a few leading institutions. Stated briefly, the problem of this study is: **To discover, trace, and interpret the trend of college entrance requirements for the decade 1913–1922.**

## RELATED STUDIES

In the scientific literature of college entrance requirements, three studies stand foremost. The first of these, published in 1903, was the work of E. C. Broome, A Historical and Critical Discussion of College Entrance Requirements.[1] As its title suggests, this study is composed of two parts, the first historical, and the second a criti-

[1] Published by the MacMillan Co., New York.

cal evaluation of the elements of entrance requirements. This study contributes, among other things, a history of entrance requirements for the 150 years before 1800, during which there were no college catalogues published, the data being taken from old statutes, minutes, records, etc., many of which were in Latin and most of which were in manuscript. It has been found particularly valuable in connection with the appearance and development of the various subjects in college entrance requirements, and in the appearance and development of flexibility in these requirements.

The second important study appeared in 1912, Admission to College by Certificate,[2] by J. L. Henderson. In this study Henderson shows that the development of the certificate system of entrance to college was not caused by chance, but that it was a "natural and logical outgrowth of educational conditions." He traces decade by decade the spread and development of the certificate system in nine State universities, showing the influences and forces which ultimately operated to unite the secondary and higher State schools into a system of education. In his last chapter he discusses critically 10 different types of certificating systems, shows the wide variation in practice and control, and suggests a national system of certification in the form of a commission working under the National Association of State Universities. His final conclusion is as follows:

> No system of certification which does not regard the welfare of the schools and colleges alike and which does not bring them together will meet the demands which gave rise to the fundamental idea of admission to college by certificate.[3]

In 1913 appeared a study by Clarence D. Kingsley, entitled "College Entrance Requirements."[4] In this study Kingsley compiled the entrance requirements of 203 colleges of liberal arts, 85 colleges of engineering, and 31 colleges of agriculture. The contribution of this study lies in the fact that it presented the current practice of a large number of schools from all parts of the country. The other two studies mentioned traced changes in a few institutions through a number of years. Both types of study are valuable. The former type shows trends and the influences which caused them; the latter shows current practice over a wide area. It is probably true that Kingsley's bulletin has been more widely consulted than any other contribution in the field of entrance requirements. It has been the basis of frequent later comparisons in less extensive studies.

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[2] Teachers College Contributions to Education, No. 50.
[3] Loc. cit., p. 169.
[4] U. S. Bu. of Educ. Bul., 1913, No. 7.

A few less pretentious studies, limited in number of colleges, subjects, scope, purpose, etc., have been made during the past few years, and these have been frequently drawn upon for the purposes of this study. References to these will be found in the bibliography.

## METHOD USED AND SOURCE OF DATA

It was thought that this study would be of most value if limited to colleges of liberal arts, since this is what is usually understood by "going to college." Moreover, it is commonly recognized that a purely technical institution can legitimately demand an appropriate preparation, and that there is quite common agreement as to what this preparation shall be. The period studied was, for several reasons, limited to 10 years: first, because it was desired to make a thoroughgoing analysis of entrance requirements, and this could not be done over a long period of time; second, because an analysis of more recent trends would be of more value than those more remote; and third, because the material available further back than 10 years or so would be limited.

The data in the following pages came from a variety of sources, chief of which are the following: Over 6,000 college catalogues; several hundred college entrance blanks, presidents' and other college reports and publications; reports, proceedings, minutes, and publications of various State, church, associational, and regional accrediting, examining, and certificating bodies; some 600 letters from all parts of the country; and whatever general literature has been written upon the subject.

It has been said that there are upwards of 40 different standardizing agencies for colleges in the United States. There are State associations of colleges, church board associations, regional associations, and associations of particular types of institutions, such as the Association of Urban Universities, etc. There is no one universal standardizing agency. In 1920 the American Council on Education, representing higher education in the United States, published a list of "Accredited Higher Institutions." This list was composed of accredited lists from four of the agencies which the council judged to be the most important and reliable. The four lists used were those of the Association of American Universities, the North Central Association of Colleges and Secondary Schools, the Association of the Colleges and Secondary Schools of the Southern States, and the University of California. Shortly after this list appeared the Association of the Colleges and Preparatory Schools of the Middle States and Maryland adopted criteria and proposed a list of accredited

higher institutions. In 1922 the council revised its 1920 list and included those colleges accredited by the Association of the Middle States and Maryland.

This is the list of colleges used in this study. It contains 349 institutions, most of which are colleges of liberal arts or have departments of liberal arts attached. Complete data were gathered from 314 of these colleges, which is the number represented in this study. A few of the colleges on the list were purely technical, and the material of a few others was not available. In a very few instances the data from a technical institution were used where a course in "liberal science" was given.

In general the discussion will be historical, tracing the various items and elements during the period and showing the influences and forces operative in bringing about these changes. It will be realized that the subject is so large that all elements of it could hardly be covered in one volume. Doubtless several important aspects have been dismissed without adequate treatment. Nevertheless, the attempt has been made to treat from a practical point of view those aspects which are most significant. It is recognized that not all individuals will be interested in all parts of the study; consequently it was thought best to go into considerable detail in each topic, so that each one would be of real value to the individual interested in it. The topics will be discussed in the following order: Methods of admission, academic requirements, personal requirements, flexibility of requirements, and, in the last chapter, a comparison of five different sections of the United States in the more important phases of college entrance requirements.

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## CHAPTER II

## THE METHODS OF ADMISSION TO COLLEGE

In order to be admitted to a restricted society or organization it is necessary that an applicant be required to show suitable qualifications or to demonstrate his fitness for membership in it. His qualifications are set forth, and the proper authorities analyze, weigh, and evaluate them in the light of the various standards. If they are found to be equal in value to these standards, the individual may be given permission to enter the organization. If not, he may be refused admission. The processes, procedures, or practices by which qualifications are compared with standard and then passed upon, either favorably or unfavorably, we will call methods of admission. In any organization requiring previous knowledge, experience, or skill such as a college demands, these methods occupy a very important place. Even the health, growth, and existence of the college depend upon them. If the requirements are ill-adapted or poorly enforced, the college can not have a normal healthy growth. Thus it is seen that the life and future of any college is indissolubly bound up in its entrance requirements and methods of admission.

Originally in America the only means of entrance to a college was by examination. In 1642 Harvard first published entrance requirements. These consisted merely of facility in Latin and Greek. For many years there was no other way to a college course except through such examinations. However, within the last century there have appeared and developed other methods until now at least 10 are recognized. It will be the purpose of this chapter to state each of these methods, with a short explanation, and then to dwell at some length on the two more recent developments in this field.[1]

The various methods of satisfying college entrance requirements are as follows:

1. *An examination of the applicant in all of the specified subjects at the college or university itself.*—This for many years was the sole method. Examining bodies are of recent origin. Certification is only 50 years old. With the development of such organizations as the New York Board of Regents and the College Entrance Examina-

[1] A good historical discussion of entrance requirements may be found in Broome, E. C., Historical and Critical Discussion of College Entrance Requirements.

tion Board this method of admission has largely disappeared. Almost any college would examine prospective candidates, but the number so examined now is relatively very small. Certification and the work of the College Entrance Examination Board and the New York State Regents have reduced this to a minimum.

2. *Examination in the specified subjects at other places than the individual college or university, under the direction of an examining body, such as the New York Regents or College Entrance Examination Board.*—By far the largest portion of students entering college by the examination method enter under this plan. The College Entrance Examination Board was organized in 1900 as a clearing house for such examinations. It has been of untold value to both colleges and secondary schools, through its examinations, discussions, reports, methods, etc. It has done much to organize and systematize college and secondary school curricula and practice. Its questions are framed by experts in the various subjects drawn from both the secondary school and the college, and its examination books are read by other experts similarly drawn. This board does not admit to college. The results of the examination are sent to the college designated by the candidate and this college passes upon the question of his admission. An idea of the magnitude of the work of this board may be gained from the fact that 18,231 candidates took its examinations in 1922, writing 68,351 books. The board carried an expense, in 1922, of $148,641. The expense of the board is met by dues of memberships, examination fees, subsidies, sales of duplicate records, receipts, specimen papers, printed documents, etc.

3. *The presentation of a certificate from an approved or accredited secondary school.*—There was no certification in the early days, because there was no unified school system. To a very large degree the colleges prepared their own students. Early attempts at the formation of a State system of schools—somewhat like Napoleon's University of France were largely responsible for the appearance of the certificating system. With the exception of New York, no State now has such an organization of its schools, but most of the States recognize a close relationship between the secondary schools and the colleges supported by the State. Michigan introduced a system of accrediting secondary schools and accepting candidates on certificate in 1871, Indiana in 1873, Wisconsin and Iowa in 1876, etc. At the present time five large accrediting associations, covering practically every State in the Union, accredit and approve both secondary schools and colleges; every State accredits its schools in one way or another; and many colleges accredit for their own private uses. With the exception of a very few eastern colleges, all colleges in the

United States will now admit a graduate of an accredited high school on certificate, subject to such restrictions as health, moral character, etc.[2]

4. *Combination of examination and certification.*—This method of admission is not very commonly used. A few colleges will accept a certificate for a part of the requirement and examine on the other subjects required but not covered by the certificate. Of course all, or nearly all, colleges require certificates for purposes of record, no matter by what method the student is admitted to college.

5. *Presentation of a diploma from an approved high school.*—This plan is rarely used by itself. Even if the college merely specified graduation from an approved high school, as a few colleges do, a record of the student's high-school work is of value in understanding and assimilating him. In order that the diploma may not be confused with the certificate, many colleges which accept on certificate state that the diploma is not needed and will not be considered.

6. *Presentation of a diploma from a normal school.*—Although this study is interested in the articulation of the college and secondary school, and not in the articulation of the college and normal school, the above and the two following methods may be mentioned as ways of entering college.

7. *Presentation of a teacher's certificate.*—State universities especially will accredit certain grades of teachers' certificates for stated amounts of the subjects required for entrance. Some colleges accredit only those subjects named on the certificate. Other colleges accredit more liberally.

8. *Entrance as a special or unclassified student.*—Such candidates must usually be of mature age (i. e., past high-school age), must have a definite plan or ambition in mind, and must have sufficient preparation to enable them to carry the work they desire to take. Occasionally a college grants a degree of "associate in arts" to a four-year special student.

9. *Comprehensive examinations or the "new plan."*—This is a combination of the certificate and examination methods of entrance, but instead of being examined in all subjects the candidate is examined in only four, which he may to a large extent choose himself. A description of the origin, development, methods, and results of this plan is given below.

10. *The psychological examination.*—This is really not a method at all but rather a most important element in a new method of admission. It is less than 4 years old, but is rapidly increasing in use. It is discussed at length later.

[2] For a complete history of the origin and development of the certificating system the reader is referred to the excellent discussion of J. L. Henderson, "Admission to College by Certificate."

In addition to the above methods of admission, two unique elements or details are occasionally found. The first of these is an examination in English composition. In 1922, of the 314 colleges of this study, 9 required every entrant to take this examination. If he passes, he takes the usual freshman English courses; if he fails, he takes additional work in composition. Three of the nine colleges vary this by excusing him from a certain amount of the freshman composition if he passes the tests. Six of the nine colleges making this requirement are western colleges. This is not a new development since 1913, only three colleges adopting it since then.

The second unique element in college admissions is the aural examination in modern foreign languages. Columbia adopted it in 1917 and Princeton in 1918. Under this plan all applicants offering modern foreign language for admission must take these examinations. As described by Princeton these tests are as follows:

> The aural test in the elementary requirement will be not more than 45 minutes in length and will consist of three parts: (1) An exercise in writing easy German, French, or Spanish prose from dictation; (2) the reproduction in English of the content of a short "sight" passage in easy German, French, or Spanish read aloud by the examiner; (3) writing in German, French, or Spanish answers put by the examiner in that language on a short connected passage, read aloud by the examiner just before the questions are asked.[1]

The elementary requirement referred to above is two years of language. The intermediate requirement covers three years of work, and the examinations are the same as above except that they are "moderately difficult," instead of "easy." The written examination counts two-thirds and the aural one-third in the final rating. If the applicant passes the written and fails on the aural he is not required to take another examination in the former. If he fails in the written and passes in the aural he must be reexamined in both parts. If the aural entrance condition is not removed by the beginning of the sophomore year it must be removed by an additional one-term course.

The most important factors in the discussion of the problem of the best method of selecting students for college may be summarized as follows:

1. The usual written examinations.
2. Oral examinations.
3. The secondary school record of the candidate.
4. An intelligence test or psychological examination.
5. A health test and physical examination.

Several of these elements will be discussed in Chapter V, "Personal requirements for entrance to college."

[1] Catalogue of Princeton University, 1922–23, p. 28.

## THE COMPREHENSIVE EXAMINATION OR NEW PLAN OF ADMISSION TO COLLEGE

"The scholarship at Harvard College depends more on the men we choose than on anything we can do after we get them." The philosophy back of this statement by the chairman of the committee of Harvard College in 1909 had a most significant part in what Dean Briggs called "Harvard's most important act in many years." This "most important act in many years" was the development and establishment of the so-called "comprehensive examination" or "new plan" of admission.

For nearly 275 years Harvard had been requiring examinations in the various subjects. A commonly accepted content had become established, syllabi and outlines published, examination questions of former years were easily available, and for these and other reasons there grew up, in Harvard's neighborhood, schools the major purpose of which was to coach pupils for these entrance examinations. For years and years Harvard and other New England colleges were fed almost entirely by these preparatory schools.[4] The reason for this is clear. If a boy planned to enter one of these colleges he went to a "fitting" school which specialized in work which he could use to advantage in the entrance examinations. If he was a western boy he found it advisable to come East for his preparatory training.

The ultimate result was a general lowering of scholarship in these colleges. Or perhaps it might be better to say the ultimate result was a failure to show as high scholarship as might reasonably have been expected. This may be explained by three factors.

In the first place the system of examination tended to narrow the field from which good students might come, and in the end this would mean that the average of the class that did come would be lower than if all parts of the country were represented. We find the chairman of the committee on admissions at Harvard saying in 1910, "The present method of choice, intricate and complex, working in obscure ways, cuts us off from thousands of good students and depresses the quality of those we get."[5]

In the second place, even within the narrowed field referred to, the majority of students (about 60 to 70 per cent) came from special fitting and private schools. The existence of such schools depends upon

[4] Dean C. H. Barnwell, speaking to the Association of Colleges and Secondary Schools of the Southern States in 1911, said: "Of 11,500 public and private secondary schools in the United States only 30 have sent to Harvard as many as one student annually for the past 10 years, and of these 30 all of the 14 public and 10 of the 16 private schools are in the State of Massachusetts. The great majority of students entering the freshman class at Harvard each year come, in fact, from the schools of Middlesex County, in which the college is situated." (17th Proceedings, 1911, p. 80.)

[5] An. Rep. Harvard University, 1909–10, p. 259.

the success with which their graduates met the entrance examinations. Instructors in such schools are judged upon the success of their pupils in these examinations. Memorizations and specialization on questions previously asked make such an education so narrow and definite that many pupils are able to "enter" college but are unable successfully to meet its demands once they are inside. In this connection we find Dean Briggs reporting in 1911:

> The trouble has been, not in the height of their standard (i. e., of the Harvard entrance examinations) which was helpful, but rather in the eccentricity of their standard, which made it impossible for a boy outside of Harvard preparatory schools to meet the requirements without special instruction or self-preparation in the subjects no better than those of the school curriculum as tests of power.[5a]

Dean Barnwell, in the address already referred to, stated:

> Furthermore, even the students admitted from these few schools that make a business of preparing students for Harvard have not always proved themselves so well qualified as the college authorities might reasonably expect. As a result of constant and systematic cramming for examinations on certain special subjects, many applicants manage to gain admission without having developed any considerable degree of intellectual power. They are of course eliminated by the first examinations.[6]

The last and most important of the reasons for low scholarship, as related to entrance requirements, is that attention is centered on study as something not particularly worth while in itself, but merely something with which to get something else. So the pupil learns to look upon his secondary education only as a means of entering college. When he gets into college he in turn looks upon college work merely as a means of obtaining a college degree. The result is that he is inclined to seek both ends at the minimum of time and energy, and to the extent that he is not doing his best, to that extent he is being miseducated. But to many students the "gentleman's grade" is sufficient. In his annual report for 1913–14 President Lowell says:

> But faithfulness and ordinary proficiency in scholarship are not enough. During the last generation a tendency to disparage the high scholar has run through the educational system of America. It has been the fashion to say that he is generally passed in later life by the man of mediocre intellectual achievement in school or college, an idea as irrational as it is contrary to the evidence derived from school statistics.[7]

In order to avoid some of these difficulties and to make Harvard "more easily accessible to the country at large" there was appointed a committee which for two years studied all phases of the problem. In 1911 its recommendations became a part of Harvard entrance requirements, and the "new plan" was under way. This plan is now

[5a] An. Rep. Harvard University, 1910–11, p. 74.
[6] Ibid., p. 30.
[7] An. Rep. Harvard University, 1913–14, p. 10.

looked upon as a most important contribution in the field of articulation of secondary and higher education. In full the plan as published by Harvard in 1911 is as follows:

Candidates for admission to Harvard College may apply for admission by the plan described above (the usual examinations in all subjects) or by the following alternative plan. This new plan does not take the place of the old plan; it provides another method of admission for good scholars.

To be admitted to Harvard College a candidate—

(1) Must present evidence of an approved school course satisfactorily completed; and

(2) Must show in four examinations, as explained below, that his scholarship is of satisfactory quality.

SCHOOL RECORD

The candidate must present to the committee on admissions evidence of his secondary school work in the form of an official statement showing—

(*a*) The subjects studied by him and the ground covered.

(*b*) The amount of time devoted to each.

(*c*) The quality of his work in each subject.

To be approved this statement must show—

(*a*) That the candidate's school course extended over four years.

(*b*) That his course has been concerned chiefly with languages, science, mathematics, and history, no one of which has been omitted.

(*c*) That two of the studies of his school program have been pursued beyond their elementary stages, i. e., to the stage required by the present advanced examinations of Harvard College or the equivalent examinations of the College Entrance Examination Board.

THE EXAMINATIONS

If the official detailed statement presented by the candidate shows that he has satisfactorily completed an approved secondary school course, he may present himself for examination in four subjects as follows:

(*a*) English.

(*b*) Latin, or for candidates for the degree of S. B., French or German.

(*c*) Mathematics or physics or chemistry.

(*d*) Any subject not already selected under (*b*) or (*c*) from the following list:

| | | |
|---|---|---|
| Greek. | History. | Chemistry. |
| French. | Mathematics. | Physics. |
| German. | | |

These four examinations must be taken at one time, either in June or in September.[8]

This innovation at Harvard was looked upon by many individuals as meaning either one of two things:

(1) A surrender to the certificate system.

(2) A lowering of entrance requirements.

[8] Harvard University catalogue, 1911–12, pp. 72, 73.

Although it is a most important step toward the recognition of the high-school certificate, a reading of the description of the plan will show that the certificate is only one element and by no means the whole of it. Although the certificate must be approved before the candidate is admitted to the examinations, this approval and admittance carry no guarantee of admittance to college. The examinations must be passed successfully before the candidate is matriculated in the college. (See Table 1.)

The answer to the second "expectation" can best be shown by statistics of failure under the two plans. The report of President Lowell for 1910–11 shows that of the 185 who applied for admission by the new method, 46 were discarded without being permitted to take the examinations, 139 were examined, 83 passed, and 56 (40.2 per cent) failed. At the same time 17 per cent of the "old plan" candidates were rejected, and 8.1 per cent of the June candidates did not appear for the September examinations. Moreover, four applicants failing in the new examinations in June succeeded in passing the old in September, and only one succeeded in a second attempt to pass the new.

The second year of the new plan at Harvard showed a smaller percentage of failure than the first year. The figures for these two years and also for 1922 are shown in Table 1.

TABLE 1.—*Application statistics for entrance to Harvard College under the new plan, for the years 1911, 1912, and 1922*

| Applicants | 1911 | 1912 | 1922 |
|---|---|---|---|
| Number of applicants | 185 | 259 | 636 |
| Records not approved | 46 | 46 | 59 |
| Admitted | 83 | 154 | 343 |
| Per cent admitted | 59.7 | 72.3 | 59.4 |
| Rejected | 56 | 59 | 293 |
| Per cent rejected | 40.3 | 27.7 | 40.6 |

For the first few years following the introduction of the new plan there was a decrease in the percentage of failures under it. This was probably due to two causes; first, the tests were better understood, and second, fewer students were willing to "take a flyer." The figures for the last few years show somewhat of an increase in the number of failures, probably due to the overcrowding of the college and the necessity for a more rigid selection of students. The failures under the new plan are still somewhat higher than those under the old plan. A comparison of the results given by the College Entrance Examination Board shows that, although there have been minor fluctuations, generally speaking there is little difference in the

percentages of failure under each plan. The figures for 1921 given in Table 2 are typical:

TABLE 2.—*A comparison of the percentages of College Entrance Examination Board old-plan and new-plan examination books receiving given ratings for 1921*[1]

| Plan | Number of books | Ratings (in percentages) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 90–100 | 75–89 | 60–74 | 50–59 | 40–49 | 0–39 | 60–100 | 50–100 | 40–100 |
| Old | 59,845 | 5.2 | 18.9 | 33.2 | 14.5 | 11.7 | 16.5 | 57.4 | 71.9 | 83.5 |
| New | 10,126 | 3.1 | 18.5 | 37.5 | 16.6 | 11.6 | 12.7 | 59.1 | 75.7 | 87.3 |

[1] This table is made up from material taken from the advance sheets of the twenty-first annual report of the secretary of the board, pp. 20, 21.

One reason for the introduction of the new plan at Harvard was to draw students from a wider area than that from which they had been drawn previously. The geographical distribution, by percentages, of the candidates under each of the plans for 1911 at Harvard was as follows:

*Geographical distribution of the candidates at Harvard in 1911*

| Plan | Massachusetts | New England | Other Atlantic States | West of Alleghenies |
|---|---|---|---|---|
| Old | 72 | 85 | 8.5 | 4.5 |
| New | 41 | 47 | 31 | 21 |

The new plan included candidates from 12 States from the schools of which no boy was admitted under the old plan.

The extent to which this plan has grown at Harvard may be seen from the fact that in 1922 nearly one-half of the applicants admitted were admitted under the new plan, 411 being admitted by the old and 343 by the new plan. It was not expected that the new plan would immediately, if ever, supersede the old. We find President Lowell saying in 1910, "The two stand and probably will long stand side by side."

This rather detailed attention to the experience of Harvard is made in order to show the influences which resulted in the adoption of the new plan there. This is especially important, as Harvard is looked upon as the originator of the scheme. However, at least one other college had been discussing it long before it was adopted by Harvard. As early as 1901 President Hadley, of Yale, had urged the adoption of the "comprehensive examination" system, but the "practical difficulties" of putting it into operation were too great, and it remained for Yale's older sister Harvard to initiate this movement 10 years later.

In 1910 the Association of New England Colleges held a meeting at Amherst College at which representatives of Harvard, Yale, Dartmouth, Williams, Amherst, Bowdoin, Vermont, Trinity, Middlebury, Tufts, Boston University, and Wesleyan were present. A subcommittee composed of Presidents Hadley, Lowell, and Hyde presented the following resolution, which was unanimously adopted:

*Resolved*, That the association recommend the New England colleges adopt a system of tests for admission in which a certificate shall be taken for quantity and an examination shall be held in a limited number of substantial subjects for the quality of the school work.[9]

The following year the Association of the Colleges and Secondary Schools of the Middle States and Maryland appointed a committee to investigate and report on the matter on comprehensive examinations. In 1914 this committee reported definitions and recommendations concerning the use of comprehensive examinations in college and university studies, and in regard to admission to college stated:

The plan, though still only in the experimental stage, appears to mark a decided advance over the present method of piecemeal entrance examinations and is worthy of the most careful consideration.[10]

The same year (1914) the secretary of the College Entrance Examination Board suggested, after discussing the new plan, that "possibly, if the scheme should meet with the board's approval, the following 'comprehensive examinations' might be held during the mornings of the examination week." Six groups of possible subjects were then listed.

In March, 1915, the matter of the new plan was deemed so important at the meeting of the National Conference Committee that a special order of business was made in order to adopt the following resolution:

*Resolved*, That the National Conference Committee on Standards of Colleges and Secondary Schools recommend that consideration be given by colleges to the method of admission by means of a certified school record and comprehensive examinations in a limited number of subjects.

The College Entrance Examination Board meeting less than a month later added impetus to the movement by the adoption of the following resolutions:

That there be offered by the College Entrance Examination Board in June, 1916, and thereafter a set of comprehensive examinations adapted to the use of those colleges in the board which offer or purpose to offer comprehensive examinations for admission * * *.

That separate committees of examiners be appointed by the board for the preparation of the two sets of the examinations offered.

That separate bodies of readers be appointed for the reading of the answer books of the two systems of examinations.

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[9] Harvard Alumni Bulletin, XIII, p. 271.
[10] Proceedings, 1914, p. 81.

That, until otherwise arranged, each college shall determine the conditions under which its own candidates shall be admitted to the examinations of the new system, and that each college shall be allowed, on request, to have the answer books of its candidates for admission under this system forwarded to it without reading on the part of the board.[11]

The board set its first comprehensive examination in 1916, and has used the new plan, in addition to the old plan, ever since. In 1918 the secretary reports:

The increased use of the new plan of admission and the growing popularity of the comprehensive examination deserves special mention. It seems clear that a marked improvement in the educational situation is being achieved by this new development in the examination system. However, the comprehensive examinations, in proportion to the number of candidates at present concerned, are far more expensive than the ordinary examinations; and the organization and maintenance of the comprehensive examinations have caused a serious diminution of the funds that for several years have served as a working capital for the board's operation.[12]

### EXTENT OF USE OF THE NEW PLAN

It would be a well-nigh impossible task to obtain the total figures for each year showing the number of candidates taking the new plan examinations in all of the colleges. However, the figures given by the College Entrance Examination Board, which include nearly all of the candidates taking these new plan examinations, will show clearly enough for all practical purposes the extent of the development of the plan. The material of Table 3 was taken from the various reports of the secretary of the board.

TABLE 3.—*A comparison of the number of candidates taking the old-plan and the new-plan examinations of the College Entrance Examination Board for the years 1916–1922*

| Candidates | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
|---|---|---|---|---|---|---|---|
| Old-plan candidates | 10,136 | 8,685 | 9,889 | 10,747 | 12,742 | 15,510 | 15,619 |
| Percentage of total | 95.3 | 93.8 | 92.9 | 84.5 | 83.5 | 85.1 | 85.7 |
| New-plan candidates | 495 | 580 | 752 | 1,619 | 2,519 | 2,713 | 2,612 |
| Percentage of total | 4.7 | 6.2 | 7.1 | 15.5 | 16.5 | 14.9 | 14.3 |
| Total candidates | 10,631 | 9,265 | 10,641 | 12,716 | 15,266 | 18,223 | 18,231 |

It will be seen from Table 3 that in four years after the adoption of the new plan the percentage of the total number examined who chose this method increased from 4.7 to 16.5. The figures for 1921 and 1922 show a slight decrease from those of 1920. It is interesting to note that this decrease is due to the smaller number of girls choosing this plan. The boys increase in both years, from 673 in

[11] Report of the secretary, 1915, p. 4.
[12] Ibid., 1918, pp. 1, 2.

1920 to 1,003 in 1922. The girls decrease in both years, from 1,846 in 1920 to 1,609 in 1922. Even at that the new plan is relatively more popular with the girls. About twice as many boys as girls take the board's examinations, both the old and the new plan, while about twice as many girls as boys choose the new plan. This may be attributed, to some extent at least, to the fact that the prominent women's colleges of the East have definitely recognized the new plan since 1916.

### SUBJECTS CHOSEN BY NEW-PLAN CANDIDATES

The new plan allows to the candidate a considerable freedom of choice of subject. He is given two (or three) groups from which to choose, and can virtually elect anything for the fourth subject. Harvard specifies English as the first subject, but Vassar, Holyoke, Smith, Wellesley, and other colleges allow a choice of either English or history. Table 4, made up from material in the various reports of the secretary of the College Entrance Examination Board, shows the number of times the several subjects were chosen since 1916:

TABLE 4.—*Subjects elected by new-plan candidates of the College Entrance Examination Board, 1916–1922*

| Subject | Number of candidates in the year— | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| English | 453 | 564 | 740 | 1,711 | 2,387 | 2,575 | 2,420 |
| Mathematics | 291 | 366 | 549 | 1,417 | 1,890 | 2,186 | 2,118 |
| French | 196 | 260 | 340 | 1,116 | 1,805 | 1,983 | 1,910 |
| Latin | 385 | 444 | 562 | 1,366 | 1,731 | 1,842 | 1,708 |
| History | 122 | 133 | 175 | 478 | 598 | 718 | 680 |
| Chemistry | 127 | 149 | 158 | 339 | 512 | 493 | 475 |
| Physics | 145 | 187 | 177 | 228 | 408 | 438 | 451 |
| German | 198 | 226 | 274 | 350 | 257 | 119 | 66 |
| Spanish | 3 | 10 | 17 | 48 | 120 | 150 | 176 |
| Greek | 21 | 26 | 28 | 34 | 30 | 39 | 34 |
| Botany | 0 | 0 | 0 | 1 | 4 | 9 | 6 |
| Biology | 0 | 0 | 1 | 4 | 1 | 4 | 8 |
| Zoology | 0 | 0 | 0 | 0 | 0 | 3 | 1 |
| Geography | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Music | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| Mechanical drawing | 0 | 3 | 2 | 0 | 2 | 1 | 0 |
| Freehand drawing | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Total | 1,941 | 2,368 | 3,024 | 7,092 | 9,748 | 10,561 | 10,055 |

A glance at the lower part of Table 4 will show a very important reason why the new plan is expensive to the board.

Table 5 shows the number of times each of the 12 most important colleges (in number of times mentioned) was designated by new-plan candidates of the College Entrance Examination Board, 1916–1922. The table was compiled from data in the various reports of the secretary of the board

TABLE 5.—*Colleges designated by new-plan candidates, 1916–1922*

| College | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
|---|---|---|---|---|---|---|---|
| Smith | 1 | 3 | 26 | 375 | 435 | 490 | 492 |
| Harvard | 325 | 325 | 268 | 305 | 437 | 469 | 462 |
| Wellesley | 3 | 12 | 55 | 417 | 583 | 501 | 394 |
| Vassar | 1 | 33 | 85 | 251 | 306 | 324 | 280 |
| Yale | 53 | 80 | 126 | 129 | 203 | 270 | 228 |
| Mount Holyoke | 3 | 12 | 17 | 171 | 211 | 237 | 219 |
| Princeton | 36 | 47 | 19 | 82 | 131 | 181 | 193 |
| Radcliffe | 65 | 64 | 69 | 73 | 79 | 71 | 98 |
| Stevens Institute | 0 | 0 | 0 | 0 | 0 | 0 | 95 |
| Barnard | 0 | 0 | 16 | 55 | 58 | 63 | 56 |
| Wells | 1 | 0 | 1 | 32 | 42 | 19 | 24 |
| Goucher | 6 | 3 | 4 | 3 | 8 | 9 | 14 |

From Table 5 it is clear that the eastern colleges are most frequently designated. This is to be expected since they are the only colleges which to any great extent use this method of admission. In addition to the above 12 colleges, 19 others were designated during the period, and a few "irregular" designations were made. Doubtless these colleges are not all which would accept new-plan candidates of the board, but they are the most important since they examine most frequently. The table gives an idea of the development in the adoption of this plan of admission. A few additional colleges state in published requirements that the new plan will be recognized. A number of colleges which give examinations themselves state that they will offer the new-plan examinations to those candidates who desire it. However, practically all of the examining for college entrance is done by examining bodies and not by the colleges themselves.

## ADVANTAGES OF THE NEW PLAN

The advantages of the new plan of admission are as follows:

(1) No conditioned students are accepted. The candidate either passes or fails to pass.[13]

(2) It makes for a more careful consideration of personnel. This is becoming very important as colleges are becoming more and more crowded.

(3) It is more a test of quality and ability than of quantity and knowledge.[14]

[13] In reporting the plan to Harvard the committee called attention to the fact that usually about 50 per cent of the freshmen class entered with conditions. The old plan still allows conditions.

The "pass or fail" rule works out on the failing side as follows: In 1921 at Harvard 139 candidates failed under the new plan. Of these, 36 failed in all four subjects, 55 failed in three, and 48 failed in two subjects. Of the 556 papers written by these 139 candidates, only 57 were reported as "at all satisfactory" and some of these were "doubtful."

[14] Chairman J. G. Hard, of the committee on admission, in 1915 says: "They (the new-plan examinations) must give boys opportunity to show their power, whether they have had the maximum or minimum training given in the school; for example, the papers in French should be so administered as to enable a boy who has had only two years of French to show that he has as much command over the language as can be expected from that amount of training, and they must be similarly useful for the boy who has had three or four years of French." (Rep. Commis. of Educ., 1915, Vol. I, p. 149.)

(4) It is fair in that the applicant may choose those subjects in which he is best prepared and consequently can show at his best.

(5) It selects superior students without regard to sectional or territorial limitation.[15]

(6) It is interested more in what can be done than in what has been done.[16]

(7) It makes for greater flexibility, since greater leeway is allowed in the choice of subjects for examination.

(8) It is free from biased judgment or prejudiced opinions.

(9) It frees the principal from the embarrassment of being forced to certify unworthy candidates.

(10) It leaves the secondary school free to arrange and carry on its work as it sees best.[17]

(11) The school does not assume the entire responsibility for pupil; it assumes half of it.

(12) It requires that some of the work be advanced.[18]

### WEAKNESSES OR DANGERS OF THE NEW PLAN

The main weaknesses and dangers of the new plan as discussed recently at the meeting of the National Conference Committee are as follows:

(1) The slighting by schools and pupils of subjects in which the pupils are not to be examined.

(2) The conventionalizing of the examinations.

(3) The difficulty of accrediting schools from which statements are to be accepted.

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[15] Thus far the men admitted by the new plan have done college work which ranks considerably higher than that of men admitted by the other plan." (Chairman of the Harvard committee on admission, 1912–13. An. Rep., 255.)

"The quality of students admitted by the new plan, as shown by their college work, seems to be maintained at a high level." (Chairman of the Harvard committee on admissions, 1915–16. An. Rep., p. 290.)

[16] Bancroft Beatley recently published a study of the "Relative Standing of Students in Secondary School, on Comprehensive Examinations, and in College." (Sch. Rev. 30, 141–7, Feb., 1922.) After studying 423 cases in the Harvard classes of 1920, 1921, and 1922, he concludes: "The comprehensive examinations are superior to the old-plan examinations in determining fitness for college. The new plan of admission is probably more effective than either the school record or the comprehensive examinations alone, in indicating not only the candidate's ability to do college work but also the qualitative standard of his previous training."

[17] The chairman of the Harvard committee on admissions reported in 1914: "The plan has fulfilled admirably one of the purposes for which it was established; that is, has proved to be a good method of selecting students from those who apply late in their school course and from schools in which programs of study are made without reference to the traditional college requirements imposed by the old plan of admission." (An. Rep., 1913–14, pp. 270, 271.)

[18] The usual requirement is that, of the four subjects in which examinations are to be taken, two of them must be of more than two units' value each.

To these might be added a few minor dangers.[19]

(4) That the pupil will not review his school work thoroughly.

(5) That the pupil will consider himself admitted once his school credentials have been approved.

(6) That the new plan will be too severe on the candidates.

(7) Lack of adaptation to all parts of the country.

The first two of these dangers are the most important. It is quite possible that the school and the pupil will specialize on the four subjects rather than on the entire list as under the old plan. This danger is increased by the fact that a higher mark is expected where the candidate writes on four subjects which he chooses than where he writes on a larger number which he is forced to take. On the other hand, one purpose of the certificate required is to show the entire school record, and a record showing good marks in the examining subjects and poor marks in all others would doubtless not be approved. The records of rejection on certificate for Harvard for the two years 1912 and 1916 (picked at random) show that in these years 18 and 14 per cent, respectively, of the total number of candidates who applied for admission under the new plan were refused admittance to the examinations. It must be remembered that the school record must be approved *before* the candidate is admitted to the examinations. It may take a few years for this idea to be appreciated by the preparatory schools, but once understood, it should do much to minimize the danger referred to.

The new plan, professedly tests for "power," "quality," etc. If it lives up to its promises, it will have to be closely watched and continuously adapted and adjusted. If not, it will soon become conventionalized, fixed and formal. Examinations testing quality are hard to make and hard to adjust. Examinations testing for facts and knowledge are comparatively easy to make and easy to administer. There is a real danger here.

The third danger is halved between the candidate and the school. The schools from which the pupil comes is not being examined or accredited on the basis of the pupil's success or failure. The college virtually says: "Arrange your curriculum as you like, and use whatever methods you may wish, and then give us a sample of what the individual pupil can do in the subjects he knows best." If he fails, it may be due to his own weakness, to that of the school, or to both. But if he does fail, the school is not thereby "blackballed." Other candidates from this school may apply, and even the failure himself may repeat the examination if he likes. There is some danger here.

[19] Gathered from the literature on the subject.

but time and a continued development and approximation of secondary-school standards should lessen the danger.

The fourth and fifth dangers are easily avoided by common sense, a little care, and an ordinary observance of directions.

Regarding the severity of the new plan, the committee on admissions at Harvard says:

> In the new plan there is one feature which will always tend to make the percentage of rejection high. The plan was expressly devised to provide a method of admission for good scholars whose school programs did not correspond to those on which the old plan was based. Many are therefore led to apply for admission, as we hoped, from new schools. Some of these present records which seem good, but which on examination reveal lower standards than those we try to maintain * * *. It has seemed to the committee wise to admit to the examinations with considerable freedom, for the examinations themselves are an ample protection to the college * * *. In this I think there is nothing to regret. The exchange of ideas about standards of school work which results is good for all concerned.[20]

With colleges becoming more crowded, it is necessary that a closer selection of students be made in order that the funds and equipment of the colleges be put to their best use. The chairman of the Harvard committee on admissions once made the statement that the old plan "did not select good scholars." So, instead of being a weakness, this possibility may quite probably be a strength or advantage.

The last of the objections to the new plan is closely related to the third discussed above. That this danger of a lack of adaptation to all parts of the country is recognized is shown by the following quotation from the Harvard reports for 1914–15 (p. 228):

> To carry out the theory of the new plan, our papers should be adapted to the kinds of instruction given in the different parts of the country. In practice this has been difficult to attain. In consequence, boys from distant parts of the country have sometimes made very poor showing in their papers, a result which their subsequent work in college has proved to be less an indication of their ability than of the fact that their training in certain subjects was not such as the Harvard examiners thought proper.

## THE PSYCHOLOGICAL EXAMINATION PLAN OF ADMISSION TO COLLEGE

In 1911 Harvard made a great contribution to the theory and practice of college-entrance requirements—the new plan of admission. Less than 10 years later Columbia made a second contribution which promises to be of even greater importance—the use of psychological tests in selecting candidates for admission. This method goes a step further than the comprehensive examination. It accepts subject matter, if the secondary school record is satisfactory, and then admits or refuses admission on a test of general

[20] Harvard Ann. Reps., 1912–13, p. 255.

ability. The same general cause was back of both of these contributions, the necessity for a more careful selection of students. In 1909 Columbia had added an officer of admissions whose duty it was to interview, wherever possible, every applicant for admission. The candidate was required to furnish data concerning himself, his ambitions, plans, etc., a record of his curricular and extra-curricular activities, and letters of special recommendation from those who knew him best.

This method of selection had several important phases and was a big improvement over the more impersonal method of examination only. However, in spite of its advantages it did not select applicants with entire satisfaction. Thus we find the director of university admissions reporting that even under this plan "a great many students were admitted who might better have been excluded, and there was reason to believe that some were excluded who might better have been admitted."

The problem was clearly defined at Columbia in 1918, with the organization of the Students' Army Training Corps. Old methods of admission were not applicable. In order to be eligible the applicant was required by law to have had the equivalent of a high-school education and to pass a medical examination. These requirements were low, because many more boys than could be accepted could pass them easily. However, many of the boys who could pass them did not have the mental ability and personal qualifications which were required of an officer. So, in order to test the general mental ability of the candidates, the university required them to take the Thorndike Tests for Mental Alertness. These tests were someyhat similar, though harder, than those given to soldiers in the various cantonments. The results were quite satisfactory. The students selected were reported as being "universally alert and intelligent, and from the standpoint of personality the group was exceptionally good."

The success with which Columbia was able to select these candidates for the Students' Army Training Corps suggested at once the possibility of some such method in the selection of regular college students. The war really popularized the group test. Within a few months Army tests had been developed, standardized, and given to 1,726,966 officers and men. The success of these tests in classifying the men was undisputed. Moreover, standards had been set, technique developed, and a common faith and confidence had been established. For colleges looking for means of selecting students from among those who could furnish the minima of certificate or examination record the results of Army testing were irresistibly suggestive. The possibility of the use of such tests had been mentioned at Columbia some years earlier, but confidence in them had not as yet been sufficiently established. The result of the Army testing sup-

plied this basis of confidence, and the way was then clear for the introduction of such examinations. The outcome was that tests were modified and adapted and made an important element in a new or alternative plan of admission at Columbia in 1919. This plan as adopted at this time is as follows:[21]

The new method is based upon the principle that fitness for college is determined by (1) preparation, (2) character and promise, (3) health, and (4) intelligence.

(1) As evidence of preparation, the candidate must submit his complete secondary school record. In order to be considered satisfactory, this record must cover fully the requirements for admission. It must show grades at least as high as those required by the school for certification in the case of students entering college by certificate. The school itself must be of high standing.

(CONFIDENTIAL)

TO THE PRINCIPAL:

Mr._____has applied for admission to Columbia College. We are very desirous of having information regarding the following list of qualities. In estimating his rating in each will you kindly take as the standard the boys graduating from secondary schools the country over, making due allowance for any decided difference from the general level which may characterize your own school.

Put a cross (×) in the appropriate spaces to indicate the rating of the candidate in the several qualities, and mail to the Director of Admissions, Columbia University.

| | Above the average | | | Below the average | | |
|---|---|---|---|---|---|---|
| | *Markedly* | *Distinctly* | *Doubtfully* | *Doubtfully* | *Distinctly* | *Markedly* |
| Native ability | | | | | | |
| Industry and faithfulness | | | | | | |
| Originality | | | | | | |
| Integrity | | | | | | |
| Straightforwardness | | | | | | |
| Clean-mindedness | | | | | | |
| Fair play | | | | | | |
| Public spirit | | | | | | |
| Interest in fellows | | | | | | |
| Leadership | | | | | | |

I certify that the candidate possesses in my judgment the qualities listed above to the degrees there indicated.

I certify that he is a person of good moral character.

I recommend him as a young man of good ability, well prepared to do college work.

If the candidate is not a member of your present graduating class, has he, to your knowledge, been registered since graduation in any institution of higher education? If so, in what institution?

[21] Not all of the "new plan" was new. For instance, the personal and character records had been used for 10 years. However, these were amplified for the new method.

Has the candidate any outstanding qualities or achievement or any record of accomplishment over unusual obstacles?

REMARKS:

(Signed) _____, *Principal.*

School: _____.

(Use other side of blank if necessary.)

(2) Evidence of character and promise is supplied in his principal's recommendation and in the application for admission. The usual certificate of good moral character is very considerably amplified and is in the form here given. It will be noted that estimates of intellectual, moral, and social qualities are called for, as well as the principal's judgment of the candidate's ability to do college work.

The new application form, which, like the new form for the principal's recommendation, must be filed by all candidates, calls for a very considerable amount of information regarding the candidate's interests and activities and his part in the life of the school. Aside from the usual data regarding his date of birth and school, he supplies information on the following points:

Place of birth—Religious affiliation—Father's name—Father's place of birth—Father's occupation.

School activities, including: School publications—Musical and other organizations—Athletics — Patriotic activities — Debating — Offices — Prizes and honors.

Activities outside of the school, including: Remunerative employment or work for parents without wage—Patriotic activities—Religious and other organizations.

Outside reading—amount and fields—with the names of a number of books and other publications read.

The candidate is required to give at least three references and to write a letter telling why he wishes to go to college, why he selected Columbia, and what he expects to make of himself. As stated in last year's report, "What the student does out of class and among his fellows is quite as important as his school record in determining his fitness for a college education."

(3) As in the old method of admission, he files his complete health record.

(4) If his records are satisfactory in all respects, he is permitted, upon application, to substitute the intelligence examination for the entrance examinations. His record of preparation, if acceptable, is taken as covering the requirements in subject matter. The mental test is taken as a test of his capacity to do college work. These, with his health record and what might be called his character record, together furnish the basis on which his fitness to be a Columbia College student are determined.[22]

## CONDUCT OF THE INTELLIGENCE EXAMINATION[23]

The routine of the examination as given at Columbia University is as follows:

A large room with all chairs on the same level is provided. The man in charge of the examination has his desk on a platform from which he can be easily seen and heard by all. He is assisted by one proctor for every

[22] An. Rep. Columbia University, 1919, pp. 234, 237. Students entering by the old plan take the mental tests for purposes of record.

[23] This section is taken verbatim from the report on the use of intelligence examinations in Columbia College, published (1922) by the Bureau of Publications, Teachers College, Columbia University, New York City.

50 candidates. All material is carefully prepared and arranged before the hour at which the examination is to begin; the proctors are fully instructed regarding their duties. As the candidate enters the examination room he gives to the proctor his receipt for the examination fee and receives from him two pencils and a card 3 by 5 inches in size. The card bears a number, a space for his name, the words Thorndike Intelligence Examination, Series of September, 1921 (for example), and a box in which the score for each part of the examination and the total score will later be entered. The candidate takes his seat and at the direction of the examiner in charge he writes his name on the card and notes the number of the card for entry on each section of the examination to be given him later. The cards are then collected. The examiner in charge makes a brief introductory statement, giving general instructions and mentioning certain considerations designed to allay nervousness on the part of the candidates. A practice form is then distributed by the proctors and is examined by the candidates in accordance with instructions given by the examiner in charge. The practice forms are then collected and the other forms are in turn distributed, answered in accordance with the examiner's directions, and collected. Brief intervals between the main parts of the examination are allowed.

The staff of readers is made up of instructors or graduate students in psychology. Full directions regarding the scoring are in their hands. In September, 1921, the results for some 500 candidates were scored, entered upon the cards mentioned above, and delivered to the director of admissions within 30 hours of the close of the examination.

### INTRODUCTION BY OTHER COLLEGES AND RESULT OF USE OF THE PSYCHOLOGICAL EXAMINATION

It will be remembered that one reason for the development of the comprehensive examinations at Harvard was a desire to draw more students from a distance. Columbia faced somewhat the same situation, because her acceptance of the New York State examinations meant that almost any graduate of a New York high school had met the entrance requirements. This meant, too, that probably many students were admitted who had little chance of success in college. It also placed the candidate from another State at a disadvantage because, while the New York high-school student took his "entrance examination" at the end of each of his high-school courses and "deposited his nuggets," the outsider usually had to review all of his subjects and take the examination at one time. The result in the words of the director of admissions was "on the whole the quality of the candidates presenting themselves with these credentials has deteriorated in the past few years."[24]

It was shown in the previous section how Harvard's new plan immediately drew students from parts of the country hitherto rarely represented. So also did Columbia's new plan. As a matter of fact this expectation was "more than realized." This is all the more

[24] Columbia University An. Rep., 1919, p. 239.

unusual because the announcement of the new plan was made but a half year before it was initiated. In 1919 the increase in registration over 1918 was 28 per cent. The registration outside New York increased 73 per cent at the same time. In his report for 1921–22, Prof. A. L. Jones, director of university admissions, says: "It is of special interest to note the wide geographical range which the new students represent. * * * The student body is undoubtedly the most widely representative of any in the world to-day."[25]

The results in the way of selecting good material have been quite remarkable. At the mid-term meeting of instructors of Columbia freshmen in 1919 it was found that only two of the sixty-odd students who had made high scores on the psychological examination showed unsatisfactory work. In the opinions of their instructors, both of these students were well able to do college work. Studies made by Mr. Harold K. Chadwick and Dr. Ben D. Wood have also shown that the candidates ranking high in the intelligence tests also rank high in their school work. At Lafayette 56 per cent of all freshman withdrawals in 1920 came in the lowest quarter of psychological score. The same year at Carnegie it was found that from 40 to 45 per cent of these withdrawals came in the lowest quartile. In 1923 Professor Jones, of Columbia, reported in this connection:

> There have been some exceptions to both groups, but the correspondence between the college record and the psychological test has been closer than between the traditional entrance examinations or the high-school record.[26]

In 1920 Doctor Wood, of Columbia, made a comparison of the relation of college record and school record, entrance examination, regents' examination, and psychological examination. He gives the following correlations:

| | |
|---|---|
| College entrance examination and college record | 0.43 |
| Secondary school record and college record | .45 |
| Regents' examinations and college record | .57 |
| Psychological examination and college record | .59 |

These figures are for the first half year only. The correlation for the first year between intelligence tests and college record was 0.65, which is high considering the fact that other items than intelligence help to determine a student's standing.

A number of other colleges have published results of the use of psychological tests. Table 6 shows the correlation between the psychological scores and academic marks as reported by the colleges.

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[25] Loc. cit., 1921, p. 214.
[26] School and Society, Mar. 10, 1923, p. 268.

TABLE 6.—*The correlation between academic marks in college and intelligence scores made on psychological examinations required for entrance to college.*[1]

| Institution | Test used | Year | Correlation |
|---|---|---|---|
| Brown | Army Alpha, Brown University | 1919 | 0.35–0.60 |
| Columbia | Thorndike examination | 1919 | .65 |
| Cornell | Thurstone examination | 1919 | [2].31 |
| Do | Terman group test | 1921 | .44 |
| Goucher | Thorndike examination | 1919 | .61 |
| Do | do | 1920 | .54 |
| Do | Thurstone examination | 1921 | .26 |
| Do | Thorndike examination | 1921 | .67 |
| Rutgers | do | | .45 |
| Smith | Smith examination | | .40 |
| Yale | Yale examination | | .50 |

[1] The marks shown are for freshman mid-term, semester, or year.
[2] This rather low correlation might be explained by the fact that "testing was done between 5 and 6 o'clock of the evening of the freshman-sophomore rush down town."

The correlations shown here are really higher than appears in the coefficients, when we consider the various other elements which help to determine a student's standing, but which can not be measured by the psychological examination. The leader of the whole testing movement, Prof. E. L. Thorndike, sums this up as follows:

> Given a well-planned and sufficiently extensive team of tests, a correlation of 0.60 (1 being a perfect score) is obtained between the candidate's score and his academic achievement during the first half of the freshman year. Inasmuch as the academic achievement of a pupil is determined in part by his health, economic conditions, and moral qualities, an absolutely omniscient judge of his intellect could probably not give a rating that would correlate with his academic achievement much more than 0.70. Also, the college ratings are themselves not infallible, and these errors reduce or "attenuate" the correlation. The psychologist may, then, fairly claim that the factors of intellectual ability as born in the boy and developed to date by the training he has had are substantially summed up in his score in the psychological tests.[17]

Professor Colvin, another pioneer in the psychometric movement as related to college entrance, gives several reasons for the lack of higher correlation between academic marks and intelligence scores. Among the more important reasons are the following:

1. The tests are not absolutely accurate measures of intelligence, due to lack of serious effort, nervousness, faulty knowledge of English, imperfectness of the tests themselves, etc.

2. Other qualities than intelligence are important factors in determining college marks.

3. The inaccuracy and lack of uniformity in the marking done by college instructors.

The results reported so far on the use of the various tests for predicting success in the freshman year show that, on the whole, the Army Alpha stands the lowest. This is probably because these tests are designed to test the whole range of human intelligence and test

[17] Rep. of Commis. of Educ., 1920, p. 14.

it only roughly, and are consequently not refined enough for the upper ranges, where most of the students would be found. It has been shown, for instance, that very few college freshmen get as low as C on this test and that practically none of them get below C. Thurstone's test (omnibus form of the Army Alpha) shows slightly better results than the regular Alpha. The Terman group test is more adapted to high-school ages and ranges and shows better results than either of the two mentioned above.

The Brown University intelligence examination, constructed by Professor Colvin, and the Thorndike examination, stand highest in the group. There is little choice between the two so far as results are concerned. The results slightly favor the Thorndike examination. The main reason seems to be in its greater length and completeness (it takes 3 hours to give, while the Brown takes an hour and 10 minutes), which would mean greater reliability because of a more adequate sampling and an insuring of finer differentiation.

In 1919 the College Entrance Examination Board recognized the psychological examination. The secretary's report for that year (p. 2) contains the following statement:

> *Intelligence tests.*—It should be the purpose of the College Entrance Examination Board not only to ascertain whether the candidates have acquired the information and method of thought necessary for successful work in college but also to determine whether they possess certain important intellectual qualities which are sometimes described as alertness, strength, and endurance, although these terms would seem to indicate excellence of the body rather than of the mind.

The same year the United States Commissioner of Education suggested that the Army intelligence tests be substituted for the formal entrance requirements in the case of returning soldiers who had defective preparation. In this year the North Central Association appointed a committee to investigate and report on the use of these tests. The next year the College Entrance Examination Board authorized a similar committee.

The United States Commissioner of Education estimated that 200 colleges in 1920 had used intelligence tests in connection with their work. He based his estimate on the fact that 124 out of 288 colleges reporting in May, 1920, had given some form of such tests. While it is quite probably true that most of these tests were given for purposes of record or experiment, it nevertheless shows the rapid growth of the testing movement within the period of a year or two.[8]

A few quotations from individuals or faculties who have used psychological tests in connection with problems of college entrance will summarize the present attitude toward them.

[8] See Rep. of Commis. of Educ., 1920, pp. 13, 14.

In evaluating the use of such tests, Professor Thorndike says:

This 0.60 (correlation between psychological score and college marks) is a closer prophecy than any three-hour examination of the traditional type has ever been shown to give. It is, in fact, as good as the correlation obtained from using the total information from 16 to 20 hours of examinations of the traditional type. Much more important than this, however, is the fact that by adding it to a system of content examinations, or a system of ratings of the candidate by the school whence he comes, or a system of inspections of that school by the college, the selection is improved. A competent psychological examination, that is, gets at factors which have prophetic value and which no other existing means get at in the same way. It may or may not be desirable in certain cases as an alternative to these various systems, but it certainly improves the selective action of any one of them.

Its value as an adjunct to a system of crediting school work, in fact, deserves special mention. Such systems, beneficent as they are, have the necessary weakness of overweighting educational regularity, docility, and good intent. The boy or girl who does the regular thing in the regular way and wins the moral approval of his teachers may slip along into the university in spite of a lack of essential brain power needed to profit by a college or professional course. You all know such cases. A competent intelligence examination discovers them almost without fail. On the other hand, the boy or girl whose schooling has been irregular, or whose abilities are specialized, or whose conformity to teachers' edicts is imperfect, finds himself delayed or even barred in his progress on to college. A competent intelligence examination differentiates these irregulars into the strong, who are just the element our colleges need, who have not met past requirements by reason of their weakness.[29]

Professor Colvin says: "These intelligence tests have on the whole shown more reliability in predicting academic success than have previous school marks or teachers' estimates." Professor Whipple reports: "It seems probable that eventually all entering students at Michigan will receive an intelligence test." Professor Thorndike, speaking in 1919, said:

I affirm that an adequate psychological test is better, hour for hour spent or dollar for dollar spent, than the customary content examinations, provided an efficient inspection and rating of the candidate's secondary school career is used in both cases.

The faculty at Cornell, after investigating the uses of these tests, gave the following remarkable set of resolutions:

1. The committee believes that in group intelligence tests the faculty has a means of securing information of value:

(a) Applied to prospective students they furnish an additional basis for admission or rejection. This is particularly important if it becomes necessary to limit the number of entrants.

(b) Applied to all entering students they give information of value in—

1. Educational guidance of the student by his adviser.
2. Classification on basis of capacity for sectioning.

[29] See Rep. of Commis. of Educ., 1920, pp. 14, 15.

3. Early elimination of sure failures.
4. Early detection of exceptionally able students.
5. Diagnosis of failures due to indifference, indolence, extra-curricular activities, etc.

2. The committee wishes to emphasize the fact that there is no disposition to look upon intelligence tests as the sole basis for entrance to college. Obviously, the most valuable basis for admission is the academic record in the preparatory school. The most that could be urged is that students who show an acceptable academic record may choose between the regular content examination and the intelligence test.

3. The committee believes that the cost in time and money involved in the intelligence testing of all entrants can be justified fully.

4. The committee recognizes that the use of group intelligence tests is rapidly becoming an accepted feature of college and university administration, as it has become in the administration of the lower schools. It believes that Cornell University should not fail to derive what benefits it may from their use, and that it should have a share in perfecting the technique of building and administering these tests, and in using the results obtained to increase the effectiveness of its services to its students.

After four years' experience with these tests at Columbia University, Professor Jones says:

> The psychological test is simply one part, though a very important one, of the evidence we consider in passing upon the students' applications, but the psychological examination alone has proved to be an exceedingly useful criterion of the students' later performances. Its predictive value is high.[20]

## SUMMARY

In the earlier days entrance to college was obtained only by passing examinations in the various subjects required.

At the present time the following methods of admitting students are employed:

1. An examination of the applicant in all of the specified subjects at the college or university itself.
2. An examination in the specified subjects under the direction of separate examining boards.
3. The presentation of a certificate from an approved or accredited secondary school.
4. A combination of the examination and certificate methods.
5. Presentation of a diploma from an approved high school.
6. Presentation of a diploma from a normal school.
7. Presentation of a teacher's certificate.
8. Entrance as a special or unclassified student.
9. Comprehensive examination or the new plan of admission.
10. The psychological examination.

The comprehensive examination, or new plan of admission, was initiated at Harvard in 1911 in order to improve the selection of

[20] School and Society, Mar. 10, 1923, p. 268.

candidates by widening the territory from which they might be drawn. In brief this method consists of examinations in four subjects after the secondary school record of the applicant has been approved.

The new plan has been widely adopted by colleges, and the College Entrance Examination Board has set such examinations since 1916. In 1916 the board gave 495 of these examinations, and in 1922 it gave 2,612.

The main advantages of this plan of admission are that it leaves the secondary school free to carry on its program as it sees best; gives the applicant an opportunity to show up at his best by examining him in subjects which he to some extent chooses; allows no conditions; and makes a more careful selection on the basis of personal qualifications.

The chief weaknesses are to be found in the dangers of conventionalizing the examinations, and that the schools and pupils will slight the subjects in which examinations are not to be taken.

The psychological examination plan of admission was made possible by the success of the mental testing done in the Army during the war. Columbia and Brown Universities first used these tests in connection with the Students' Army Training Corps in 1918. The results were so gratifying that steps were immediately taken to adapt these tests to the purposes of selection of regular college students. In addition to the examination a very careful survey and evaluation of the personal qualifications of the candidate is made.

A large number of colleges have begun to experiment with these tests for purposes of selecting students. Brown, Cornell, and Goucher, in addition to Columbia, have done valuable pioneer work in this field.

The results of the use of psychological tests in selecting college students have been highly satisfactory. Correlations of psychological examination scores and later college records have been higher than in the cases of similar correlations between entrance examination or secondary school record and later college marks.

# CHAPTER III

# THE UNIT AND UNIT REQUIREMENTS

## FACTORS RESPONSIBLE FOR THE APPEARANCE OF THE UNIT

The history of the unit in the United States is the history of the flexibility of college entrance requirements.[1] This history falls easily into three main periods, the first representing some two centuries, the second about 60 years, and the third the last 25 years. It might be said that we are now in both the second and the third period, because the characteristics peculiar to the second period are still in existence. Although the unit itself was not recognized until the last of the three periods, the influences which brought about its adoption can be traced back to the first variation from the first published college entrance requirements.

In the early statements of college entrance requirements there existed no mathematical formula or measure, and there was no need of such, because ability to translate Latin and Greek constituted the only requirements for college entrance. The college curriculum was strictly classical, narrow, rigid, and led to but one degree, the A. B. For more than a century after Harvard published its first admission requirements in 1642, Latin and Greek were the only subjects required. Arithmetic appeared about the middle of the eighteenth century, but these three subjects were the only ones required or accepted until after 1800. During the period 1800 to 1850 geography, English grammar, algebra, and geometry appeared. By 1870 eleven subjects were recognized as being suitable for college entrance.[2]

The entrance examinations required in these newer subjects were naturally not the old original translations. Greek and Latin continued strong, held a firm grip on their places in the curriculum, and were examined in as before. However, the newer subjects had

[1] Material for this section was taken chiefly from the following: Broome, Historical and Critical Discussion of College Entrance Requirements, Ch. III. Browne, Making of Our Middle Schools, Chs. XVII and XVIII. Monroe, Cyclopedia of Education, Vol II, pp. 98, 99. Snow, College Curriculum in the United States, Ch. VI. Thwing, History of Higher Education in America, Ch. XXI.

[2] Latin, Greek, arithmetic, geography, English grammar, algebra, geometry, ancient history, physical geography, English composition, and United States history. See Broome, p. 46.

to be defined or outlined in such a way that the prospective student, or his master, would have some idea of the work upon which he should prepare. These first outlines and definitions consisted of such embryonic descriptions as "arithmetic to the rule of three is also required," "properly construe and parse," "be well instructed in the following rules of arithmetic," "have well studied a compendium of geography," "all shall be acquainted with vulgar arithmetic."

About the middle of the nineteenth century American colleges came under the influence of the German universities, and the system of college electives began to appear. As early as 1826 Harvard had offered certain elective courses to special students, and in 1841 several elective courses were offered in the sophomore, junior, and senior years. Columbia established a "scientific and literary" course in 1830. In 1869 Eliot began his work at Harvard, and the elective system soon became established and recognized as a definite policy, not only at Harvard but in many other institutions, particularly the newer ones. With the appearance and establishment of this system, higher education in America began a new era. It has been well said that before the Civil War American institutions of higher learning were colleges; after it they became universities.

This second period of the history of American higher education might well be named the "group period." The addition of new subjects, the elective system, and the general expansion of educational ideals and facilities, particularly the rapid development of the public high school, created a demand for more freedom in entrance requirements. In response to this demand the "group system" appeared. The A. B. course was traditional and solidly established. Its entrance requirements were an integral part of the course, well defined and narrowly efficient. This combination could not easily be shaken. There were, however, two other important possibilities.

The first of these possibilities was that of additional college degrees. Until about 1840 the A. B. was the only first degree known in American colleges. In answer to the demand for less rigid requirements, the degrees of B. S., B. L., Ph. B., and Litt. B. appeared. Each had its distinctive course and each its separate entrance requirements. From no less an authority than President Eliot we read:

> Is it not their plain duty (of colleges) to maintain two schedules of requirements, one for the degree of bachelor of arts, the other for the degree of bachelor of science, or philosophy, the latter demanding less preparatory study than the former? American colleges have been severely criticized for receiving students whose preparation was confessedly inferior to that required of candidates for the degree of bachelor of arts; but even the oldest and

strongest of them have done this, and they have done it from a genuine desire to be serviceable to as large a proportion as possible of American youth.[3]

These added degrees have long been ridiculed as "consolation prizes," "cheap degrees," etc. President Jordan once said that the B. S. usually stood for "bachelor of surfaces." While, on the whole, it is true that these degrees originated in order to accommodate students whose preparation would not admit them to the A. B. course, there has been a continuous struggle on the part of the colleges to make the courses leading to these degrees demand as high requirements in admission and work as those required for the traditional A. B. degree.[4] This subject will be discussed further in a later connection. Suffice it to say for the present that the introduction of these degrees profoundly influenced American secondary education.

The other main form of the group system is that represented by Harvard, 1871–1898. In this system several groups, combinations, or sequences of studies all lead to the one degree but have slightly different requirements for entrance. The courses and degree at Harvard were "classical," but a certain amount of substitution for Greek and Latin was allowed. Cornell in 1898 had three such groups, two of which could be entered and pursued without Greek. Columbia at about the same time had three groups, one of which included no Greek. This group system has grown in many directions and is still the skeleton upon which a college curriculum is hung.

The third stage in the history of entrance requirements of American higher institutions may be called the period of "free election." By this is meant that the candidate for college entrance may select a part or all of the subjects which he wishes to present for entrance. A few colleges give the student the right to present a full schedule of his own choosing, without prescribing for him a single course. On the other hand, a few of the colleges still permit no election on the part of the prospective entrant. Nearly all colleges now allow more or less freedom of choice to the candidate.

The development of this stage or period of "free election" in the colleges has been due largely to four causes.

*1. The further development of the college elective system and the attendant expansion of the college curriculum.*—The elective system and the expansion of the college curriculum have developed contemporaneously. It has been seen that well into the nineteenth century

[3] Educational Reform, p. 200.

[4] It is interesting to note that the various standardizing agencies have frowned upon the practice of colleges giving several degrees. For instance, Standard No. 3 of the constitution of the Association of Colleges and Secondary Schools of the Southern States begins, "The conferring of a multiplicity of degrees is discouraged. Small institutions should confine themselves to one or two."

the colleges offered but one course, which was rigid and narrow, and the requirements for entrance to it were as rigid and narrow as the course itself. By the third quarter of the century additional degrees, groups, and courses had been added, each with its own entrance requirements; but toward the close of the century these courses and groups became so numerous that it was impossible to define and administer separate requirements for each one.

*2. The rapid development of the public high school and its curriculum.*—Table 7 shows the development of the public high school, 1870–1920:

TABLE 7.—*Growth of the public high school, 1860–1920*[1]

| Item | 1860 | 1870 | 1880 | 1890 | 1900 | 1910 | 1920 |
|---|---|---|---|---|---|---|---|
| Number of public high schools | 40 | 160 | 800 | 2,526 | 6,005 | 10,213 | 14,326 |
| Per cent of public high schools (of all secondary schools) | | | | 60.8 | 75.2 | 85.2 | 87.3 |
| Number of teachers | | | | 9,120 | 20,372 | 41,667 | 95,654 |
| Number of pupils | | | | 202,963 | 519,251 | 915,061 | 1,857,155 |
| Per cent of total population in public high schools | | | | 0.32 | 0.68 | 1.00 | 1.76 |
| Per cent of all secondary pupils enrolled in public high schools | | | | 68.1 | 82.4 | 88.6 | 91.0 |

[1] The statistics of public and private high schools were not tabulated separately previous to 1890. High schools are classified as public or private according to control. The figures representing the number of high schools in 1860, 1870, and 1880 are those estimated by Doctor Harris. Inglis says these figures are "undoubtedly a gross underestimate, but how much, it would be difficult to say in the present state of our knowledge." Dexter's figures are somewhat larger than those given in the table, and these also, in the opinion of Doctor Inglis, are an "underestimate." See Dexter, Hist. of Educ. in the U. S., pp. 172, 173.
The statistics for 1890–1920 were taken from Bul. No. 7 (1922), U. S. Bu. of Educ., "Statistics of Public High Schools, 1919–20." These figures represent only those schools reporting to the bureau. In 1920 the bureau had the names of 16,300 public high schools on its mailing list. However, the figures as shown will give an idea of the rapid growth of the public high school. An average of more than one public high school has been established each day since 1890.

The remarkable development of the high school can be seen in Table 7. It must also be remembered that many of the colleges had academies or preparatory schools of their own. The high school was hailed as the "people's" college; and, because it was developing more or less independently, undoubtedly was the cause of some alarm on the part of the college. That is, no college was responsible for the establishment, support, or development of the public high school. The high school was tax-supported, while the college, except for the State universities, few of which were by 1880 of any size or relative importance, was private.

The educational authorities of a community which supported a high school were between two fires; on the one hand the college demanded a rather strict curriculum as preparation for its work, while on the other hand the public demanded more immediately useful subjects. The result was a compromise. Subjects not normally accepted for college entrance thus found their way into the high-school curriculum. It followed inevitably that these subjects would be offered to colleges in satisfaction of entrance require-

ments. When so offered, the college, if it desired the student, could do one of three things: Accept the studies so presented, accept the applicant "on condition," or revise its requirements so that these subjects would be accepted.

The first of these options the college could not afford to adopt. To admit students who did not fulfill the entrance requirements as stated in the catalogue would be a tacit admission that these were not "requirements" at all, and the college would soon lose its self respect and the respect of the community by an acknowledged adulteration and cheapening of its standards.

The second of these options proved impracticable and expensive. A student with conditions is badly handicapped in trying to carry college work, and the college itself is put to considerable trouble and expense by the attendant difficulties in administration, records, etc. Although all colleges have admitted with small conditions, no wholesale admission of students with conditions of such large amounts as to be classed as the option mentioned above has ever been practiced.

The last of these three options, that of revising entrance requirements to include well-taught subjects heretofore not included, was the most reasonable and practicable of the three, and it was along this line that the articulation of the high school and college developed. Not the least important of the influences which augmented this development was the competiton of the colleges for students.

*3. The competition of the colleges for students.*—At present the colleges are overcrowded; 30 or 40 years ago students were sought after. Committees, presidents, and deans visited schools, waited upon seniors or new graduates, and extolled the merits of their colleges. This competition for students could not but result in some concession in the important matter of entrance requirements, especially in the case of the exceptional student, and what privilege was open to this student soon became open to all others.

*4. The development of State universities.*—Private and semi-private colleges could dominate the secondary school because they felt little responsibility for it. However, the establishment and development of State universities centered attention upon and brought about a demand for a closer coordination between the public high school and higher institutions of learning. A complete State system of education was suggested early. For instance, in 1816 the State of Indiana adopted a constitution which provided for "a general system of education, ascending in regular gradation from township high schools to a State university wherein tuition shall be gratis and

equally open to all."[5] The greatest development along the line of closer articulation between public high schools and higher State institutions came after 1871, in which year the University of Michigan began to inspect secondary schools and admit students on certificate. The most recent developments along this line are those in which the rapidly developing municipal colleges and secondary schools are concerned.

Contemporaneous with the development of freedom of election in entrance requirements has been the development of quantitative measures of the subjects required or accepted. In addition to being due, in part, to the causes listed above as being responsible for more freedom of election, this development of quantitative measures is due to three main causes.

*1. The very nature of this freedom of election itself.*—Where freedom is allowed, or a concession is made, the logical question which immediately arises is as to the quantity. *How much*, in a way, is as important as the concession itself. After election became established, and previous to the appearance of quantitative statements of amounts of college entrance subjects, the question of how much would have been answered by some such statements as, "one course in physics," "one year in algebra," "one-half of (some specified textbook) geometry," or some such similarly awkward phrase. What was needed was a "counter" or symbol which would represent such phrases. The term "credit" very naturally grew out of the expression "high school credit" and was widely used by colleges and universities before the adoption of the standard unit.

*2. The development of transportation and the integration of the American people.*—The economic and sociological changes or developments in America following 1885 are important. In the early days the boy went to a college situated conveniently close to his home, or within reasonable distance of it. Transportation was poor, slow, and expensive, and distances were the greater because of the difficulties of travel. Now, transportation is of a higher grade, fast, and cheap; and no distance is really great. In the earlier day the boy was content to stay at home; often he was needed to help in the work. Now, the boy must "go away to college" and rarely is he urgently needed in the father's profession, business, or highly specialized job. So the boy at Chicago often goes to a New York college, and the boy at New York often goes to a Chicago college. Distance and strangeness are no longer terrors; indeed, they are looked upon as important educators. Of course it is not claimed that more students "go away to college" than attend the home college, but at

[5] Constitution of Indiana (1816), Art. IX, sec. 2.

the same time all colleges are drawing increasing numbers of students from a distance. Emigration of college alumni is undoubtedly responsible for much of the "going away to college."

Here again, in reporting a high-school record for a distant college or university, some medium of exchange, some terminology peculiar to the matter and pregnant with meaning, was desirable. Descriptions of courses, texts used, periods of time, etc., are clumsy, inaccurate, and lack uniformity. They are inaccurate for the same reason that they lack uniformity. Standards, texts, courses, periods, teachers, methods, and other important elements vary in different localities. It is not held that the mere adoption of a symbol will standardize all courses immediately, or ever, any more than it could be held that in the early adoption of the dollar as a monetary unit a dollar always bought a full dollar's worth of goods.[6] That however, is not the fault of the unit of measure. The form or standard aimed at is one full unit's worth of a subject, and with this value defined and standardized, the unit ultimately comes to represent it. Colleges and standardizing bodies are continually revising the definitions of the various subjects, as these revisions are demanded, and it is easy for the high schools of the Nation to know precisely what a unit's worth of any subject—in terms of time and material—means.

*3. The influence of accrediting, examining, and certificating bodies.*—The last and most important of the influences making for a quantitative statement of amount of entrance requirements is that of standardizing agencies. These organizations have created standards, developed definitions, inspected work, and evaluated this in terms of their definitions and standards. This procedure focuses the attention of the school upon its standards, and if these are low in comparison with those proposed, an incentive to improvement is provided in the desired recognition to be obtained by being placed upon the accredited list. Inspectors offer suggestions and criticisms from their experience with other schools; association meetings furnish valuable hints for those in attendance or those who read the reports; and the pride and confidence of the school man and his community are established if the school is on an accredited or recog-

[6] The president of the Carnegie Foundation for the Advancement of Teaching reports along this line as follows: "The unit used by the Carnegie Foundation aims to be such a symbol (a simple language which will convey clearly a few fundamental facts). As between colleges, whether State or endowed institutions, and high schools, private or public. It is not a mere mechanical standardization. It involves no limitation upon the freedom of either the secondary school or the college. It is simply the effort to find a 'counter' for the very relation between the secondary school and the college which the tendencies of the last 25 years have been engaged in formulating. The only part the foundation has had in this effort has been to express in concrete form the actual usages of the colleges themselves, together with the admirable results of the College Entrance Examination Board in unifying these usages." (Fourth An. Rep., 1909, p. 131.)

nized list of standard schools. Here also a unit of measure is required, one that is defined and standardized, and easily recognizable, and one that is valid in all parts of the territory for which the organization is responsible. This territory includes the whole country, because college students come from all parts of it, and because between the organizations responsible for the different parts there must be some commonly accepted medium of exchange.

## EARLY ADOPTION OF QUANTITATIVE MEASURES OF ENTRANCE REQUIREMENTS

In order to give a general view of the appearance of the unit, before going into the matter of specific influences, Table 8 is presented. This table shows the colleges earliest to adopt a quantitative measure of entrance requirements, the date of such adoption, the type of measure adopted, and the date of the adoption of the standard unit as it is now recognized. The data of this table represent a study of over 200 of the leading American colleges.

TABLE 8.—*The first adoptions of quantitative measures of entrance requirements by American colleges*

| Institution | First adoption of any measure | Name of first measure | Definition of first measure | Adoption of standard unit |
|---|---|---|---|---|
| Chicago | | | | 1893 |
| Leland Stanford | 1893 | Credit | Same as unit [1] | 1894 |
| Missouri | | | | 1894 |
| California [2] | | | | 1897 |
| Indiana | | | | 1897 |
| Oregon | 1897 | Credit | One subject daily for 12 weeks | 1900 |
| Minnesota | 1897 | Years | do | 1912 |
| Illinois | 1897 | Credit | do | 1906 |
| Arizona | 1898 | do | Same as unit | 1920 |
| Michigan | | | | 1900 |
| Carleton | 1900 | Year-credit | Same as unit | 1910 |
| Columbia | 1900 | Point | do | 1908 |
| Harvard | 1900 | do | One subject daily for one semester | 1914 |
| Iowa | 1900 | Credit | One subject daily for 12 weeks | 1912 |
| Knox | 1900 | do | One subject daily for one year is 10 credits | 1904 |
| Oberlin | | | | 1901 |
| Washington | | | | 1901 |
| New Mexico | | | | 1902 |
| Kansas | 1902 | Unit | One subject daily for one semester | 1903 |
| Beloit | | | | 1904 |
| Colorado | | | | 1904 |
| Texas | 1904 | Credit | Same as unit | 1905 |
| Rochester | 1904 | Point | do | 1913 |
| Washington (St. Louis) | | | | 1904 |

[1] A brief definition of the standard unit is: "A course of study covering a school year of not less than 36 weeks, with 4 or 5 periods of at least 45 minutes each per week." This definition is omitted from the table to avoid needless repetition, to show comparisons easily, and to show the other definitions more clearly.
[2] California adopted the standard unit in 1897, changed to a 45 "unit" basis in 1908, and back again to the standard unit in 1919.

Previous to a numerical statement of quantity, all of these institutions described outlines of courses, specified texts, or used a combination of both methods in announcing their requirements. It will be noticed that before 1900, of the 24 institutions, only 4 (Chicago,

Indiana, Missouri, and California) made use of the term "unit" in its modern accepted definition. Arizona's "credits" of 1898 were the equivalent of the unit, but the "credit" of Illinois and Oregon in 1897 was on a different basis. Of the 12 colleges which from the first used some other terminology or standard than the unit, one-half used the standard unit under some other name. Of the remaining 6, all used the "one subject daily" part of the standard definition, but three of them used 12-week terms, and two 18-week terms. The other one (Knox) used the "one subject daily for one year" but added, after the fashion of college "hours," "equals 10 credits." In this instance 120 credits were required for entrance.

It will be also noticed that during the period of 10 years after the first appearance of the unit in the catalogue of the University of Chicago only about 20 colleges had adopted it or any other measure. From 1900 to 1913, of the 314 colleges used in this study, 272 had adopted some measure.[7] This rapid development was due largely to the influence of the various standardizing agencies. It is to these influences that attention will now be directed.

## INFLUENCES DIRECTLY RESPONSIBLE FOR THE DEVELOPMENT OF THE UNIT

One of the first organizations to place numerical valuations on preparatory work was the National Council on Higher and Secondary Education, which reported to the National Education Association in 1884, "The course in preparatory instruction, properly so called, that given in a well-organized high school or academy, should cover four years."

The Committee of Ten reporting in 1892, after listing several curricula and stating the time allotments for the various subjects, said:

> A college might say, we will accept for admission any group of studies taken from the secondary school programs, provided that the sum of the studies in each of the four years amounts to 16 or 18 or 20 periods a week as may be thought best, and provided, further, that in each year at least four of the subjects presented shall have been pursued at least three periods a week and that at least three of the subjects shall have been pursued three years or more.[8]

Here then, is the real basis upon which the concept of quantitative measures of entrance subjects rests.

At its first meeting in 1895 the North Central Association of Colleges and Secondary Schools tried to answer this question, "What

[7] By 1913 there were 281 of the colleges using some quantitative measure of college entrance requirements. The 9 colleges mentioned above as having adopted such measures before 1900, added to the 272 which have adopted measures since 1900 up to 1913, gives this number.

[8] Rep. of Committee of Ten, 1892, pp. 52, 53.

constitutes a college and what a high school?" President R. H. Jesse proposed the following standard for a secondary or high school:

> A well-managed course of study, the last four years of which are devoted chiefly to Latin, Greek, French, German, English, history, algebra, geometry, and science.[9]

The first of the agencies to assign mathematical quantities to subjects was the University of the State of New York, which in 1895, in explaining a table of amounts and subjects, said, "The table assumes that each student takes three studies each day for five days each week. The term 'count' represents 10 weeks' work in one of these studies."[10]

The next year the question of amounts came before the Association of Colleges and Preparatory Schools of the Middle States and Maryland. President Eliot, in an address before the Harvard Teachers Association in 1896, had suggested the necessity of a reasonable method of attaching values to entrance subjects with due reference to the time necessary for preparation in the various studies. President Carey Thomas took this as her theme and said:

> In the wider range of electives that may be accepted in the future for admission to college, are we sure that all subjects have the same educational value; that all subjects, if equally well taught, equally well train the mind to think? * * * The time requirement of all subjects may undoubtedly be made equal by a little ingenuity, but do all subjects give the same mental discipline? In endeavoring to determine this question, on whose answer, it seems to me, depend the intellectual grasp and power of the future generation of school and college students, lies the most profound work of this association.[11]

At this same meeting Thurber defined the "unit" in almost the identical terms in which it is now commonly defined. His definition was: "The unit represents 5 hours of recitation work per week, or 5 recitation periods of 55 or 40 minutes, as the case may be, running through an entire school year."[12]

In 1896 the board of education of the Presbyterian Church, in 1898 the Ohio College Association, and in 1900 the board of education of the Methodist Episcopal Church South evaluated entrance subjects in terms of hours per week.

This movement toward quantitative definition of subjects was accelerated by the report of the committee on college entrance requirements to the National Education Association in 1899. Among other things it reported:

> What is to be desired and what the committee hopes may become true is that the colleges will state their entrance requirements in terms of national

[9] First Proc. N. Cen. Assoc., p. 26.
[10] Examination Handbook, Univ. of State of N. Y., 1895, p. 12.
[11] Tenth Proc. Assoc. of Cols. and Prep. Schs. of the Middle States and Maryland, 1896, pp. 102, 103.
[12] Ibid., p. 181.

units or norms and that the schools will build up their programs of studies out of the units furnished by these separate courses of study. A college may recognize more or fewer of these units, but where it recognizes a subject at all it is to be hoped that it will recognize it in the shape of the national unit."[13]

The same year the committee on history reported to the committee on entrance requirements concerning the unit, as follows:

> For convenience of statement we have adopted in the following recommendations the term "unit," and by unit we mean either one year of historical work wherein the study is given five times per week, or two years of historical work wherein the study is given three times per week."[14]

This is really the first definite definition in practice, of the unit. Three years later (1902) came the epoch-making report of the commission on accredited schools to the North Central Association. This report defined the unit as a "course covering a school year of not less than 35 weeks with 4 or 5 periods of at least 45 minutes each per week."[15]

The next year this definition was interpreted to include schools in which the period was 40 minutes in length, provided there were 5 periods per week. In 1918 the length of the school year required was raised to a minimum length of 36 weeks.

The next year, 1906, saw the establishment of perhaps the most important standardizing agency for higher education that this country has ever seen, the Carnegie Foundation for the Advancement of Teaching. The first question which the North Central Association tried to answer in 1895 was now attacked by this new ally. It came about in rather a unique way. In transmitting his gift for the establishment and endowment of the foundation, Mr Carnegie used the expression "retiring pensions for the teachers of universities, colleges, and technical schools." It thus became immediately necessary to define these terms. In the first report of the foundation we read:

> The terms "college" and "university" have as yet no fixed meaning on this continent. It is not uncommon to find flourishing high schools which bear one or the other of these titles.
>
> * * * In order to judge what constitutes "four years of academy or high-school preparation" the officers of the foundation have made use of a plan commonly adopted by college entrance boards. By this plan college entrance requirements are designated in terms of units, a unit being a course of five periods weekly throughout the academic year of the preparatory school. For the purposes of the foundation the units in each branch of academic study have also been quantitatively defined, the aim being to assign values to the subjects in accordance with the time usually required to pre-

[13] Proc. Nat. Educ. Assoc., 1899, pp. 672, 673.
[14] Report of the committee on history, ibid., p. 758.
[15] Seventh Proc. N. Cen. Assoc., p. 8.

pare adequately upon them for college entrance. Thus plane geometry, which is usually studied five periods weekly throughout an academic year of the preparatory school, is estimated at one unit. In other words the value of the unit is based upon the actual amount of work required and not upon the amount of time specified for the preparation of the subject.[16]

Although the Carnegie Foundation adopted the unit four years after it had been adopted by the North Central Association, it is most frequently alluded to, especially in earlier literature, as the "Carnegie unit."

The committee on definition of the unit reported to the North Central Association in 1908 a slight change in the definition of the unit. The new definition made the time a little more rigid by requiring "in the aggregate not less than one hundred and twenty 60-minute hours of classroom work," and added the provision that "two hours of manual training or laboratory work being equivalent to one hour of classroom work."[17]

In 1907 the national conference committee on standards was organized. It was designed as a national body which should be composed of representatives from the various accrediting and standardizing agencies of the country. At its third meeting in 1909 this committee defined the unit more elaborately than any other body had previously done. The usual definition quoted is as follows: "A unit represents a year's study in any subject in a secondary school, constituting approximately a quarter of a full year's work."[18]

In 1908 the committee of review of the College Entrance Examination Board presented a report recommending that the board indorse the scale of values of college entrance requirements adopted by the Carnegie Foundation and that in the future publications of the board these values be attached to the definition of requirements. This report, and its attendant recognition, was approved the following year, and we find this statement:

It is hoped that through the cooperation of the Carnegie Foundation and the College Entrance Examination Board the scale of values here given may be regarded as authoritative and that it may find general acceptance.[19]

The unit was further recognized and its use recommended by the Southern Association of College Women at its meeting in 1911 as follows:

*Resolved* (6) That the Southern Association of College Women request all institutions belonging to the Carnegie Foundation for the Advancement of Teaching to designate their admission requirements in standard units, or, if they use some other terminology, in all cases to give the equivalent in standard units.

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[16] First Rep. Carnegie Foundation for Advancement of Teaching, 1906, pp. 38, 39.
[17] Fourteenth Proc. N. Cen. Assoc., 1908.
[18] Minutes of third meeting Nat. Conf. Committee, 1909.
[19] Report of the secretary, 1909, pp. 3, 4.

(7) That the Southern Association of College Women request all State high-school inspectors in the South, in their reports of the work done in the public high schools, to give credit in units only in subjects recognized either by the Southern Asociation of Colleges and Secondary Schools or by the College Entrance Examination Board.

(8) That the Southern Association of College Women request all organizations to use the term "unit" only in the sense of the standard unit.

(9) That the Southern Association of College Women request all southern colleges that confer degrees to state their admission requirements in standard units.[20]

Secondary education in America has always suffered from a lack of distinctive and definite terminology. It has been seen that there have been used many terms to designate what the unit stands for. This multiplicity of terms could but result in confusion. In order to lessen this confusion a subcommittee made the following report to the national conference committee in 1911:

*Resolved*, That this committee recommend as a matter of convenience to secure uniformity:

1. That the term "unit" be used only as a measure of work done in secondary schools and that the term "period" be used to denote a recitation (or equivalent exercise) in a secondary school.

2. That the term "hour" be restricted to use in measuring college work and that the term "exercise" be used to denote a recitation, lecture or laboratory period in a college.

3. That unit be used as defined by this committee, the Carnegie Foundation, and the College Entrance Board, and that hour be used preferably in the sense of year-hour.

4. That the use of other terms, such as count, point, and credit, in any of these senses be discontinued.[21]

When the unit came to be recognized more or less generally, it was but natural that some schools should evaluate their units as being "super" quality and quantity, and there arose a difficulty in administering the requirements when one school would graduate pupils with 17, 18, or 19 units, and another school would give but 16 units for the same work.

The first report of the Carnegie Foundation called attention to this evil and promised that evaluations would be made on the basis of actual time, periods per week, spent on the various subjects. In order to avoid the difficulty and its attendant unfairness the national conference committee on standards amended its definition of the unit (1912) by the addition of the sentence, "that a secondary-school curriculum should be regarded as representing not more than 16 units of work."[22]

The Ohio College Association recognized the unit in 1911, when it adopted a standard of 15 units for entrance to the colleges of the

[20] Eighth Rep. Southern Assoc. of Col. Women, 1911, pp. 23, 24.
[21] Minutes fifth meeting Nat. Conf. Committee, 1911.
[22] Minutes sixth meeting Nat. Conf. Committee, 1912.

association. The Catholic Education Association also adopted the unit the same year. The last of the more important accrediting agencies, the New England Association of Colleges and Secondary Schools, and the Northwest Association of Secondary and Higher Schools, adopted this measure in 1921.

With the appearance of the Junior High School there has come a new difficulty into the question of entrance requirements, that of acceptance of junior high-school subjects as satisfying college-entrance requirements. This problem was suggested as early as 1913 at the meeting of the national conference committee. Previous to this meeting a letter was circulated among the members of the conference containing three questions for discussion at the coming meeting. One of these questions was, "Greater unit values of the work of the later years of the secondary-school curriculum as compared with the work of the earlier years."[23] The following year this problem was taken up again in a similar manner. Discussion continued through several annual meetings, and finally, in 1918, the committee voted that the executive committee should investigate, either themselves, through a subcommittee, or by means of a special committee to be appointed by them, the question of the present development of the junior high schools in the United States and report whether in their judgment the time had come for necessity of action regarding uniformity in the matter of acceptance of work from such schools by the colleges.

In 1914 Principal Bliss reported to the North Central Association a plan whereby "minor" units were counted for the first two years of the high school, "intermediate" units the second and third years, and "major" units for the last two years. The junior high school was frequently mentioned as the real basis of the movement to differentiate unit values. The result of these discussions was the appointment, in 1916, of a commission on unit courses and curricula, whose duties were defined as follows:

> This commission shall define unit courses of study in various subjects and shall consider the curriculum and organization of *all classes*[24] of institutions included within the association.[25]

The following years a comprehensive report was carried to the association, and this report has served as a sort of perennial basis for discussion and further reports.

At a joint meeting of the committee on junior high schools of the North Central Association with a like committee from the National

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[23] Minutes seventh meeting Nat. Conf. Committee, 1913.
[24] Italics by author.
[25] Proc. seventeenth annual meeting N. Cen. Assoc., 1916, p. 232.

Council of Education at the time of the meeting of the department of superintendence, February 27, 1922, the following resolution was introduced and passed unanimously:

*Resolved*, That the conference request the three commissions of the North Central Association to appoint a joint committee to study the question of defining entrance requirements in such a way as to provide for proper recognition of work done in the junior high school, with the request that the report of the joint committee be submitted to a conference held in connection with the 1923 meeting of the association.

This committee was appointed and immediately went to work under Chairman Frank Pickell, of Cleveland, Ohio.

## ADOPTION OF THE STANDARD UNIT, 1913–1922

Within 10 years after its first adoption by a standardizing agency the unit became the recognized symbol for amounts of entrance subjects. Table 9 shows the record of adoption of the unit since 1913.

TABLE 9.—*Adoption of the standard unit, 1913–1922, by all colleges, whether already using a measure of entrance subjects or not*

| Colleges | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
|---|---|---|---|---|---|---|---|---|---|---|
| Colleges adopting the unit | ..... | 3 | 6 | 10 | 6 | 5 | 2 | 3 | 4 | 2 |
| Total adoptions after 1913 | ..... | 3 | 9 | 19 | 25 | 30 | 32 | 35 | 39 | 41 |
| Colleges not using unit | 59 | 56 | 50 | 40 | 34 | 29 | 27 | 24 | 20 | 18 |
| Total colleges using the unit | 255 | 258 | 264 | 274 | 280 | 285 | 287 | 290 | 294 | 296 |

Thus it will be seen that, although 59 of the 314 colleges did not use the standard unit as their measure of entrance requirements in 1913, by 1922 this number had dwindled to 18. The figures of adoption for the years 1915–1918 are somewhat larger than those of other years. This is explained by the fact that 11 Catholic colleges which hitherto had used only general descriptions changed to a quantitative basis during these years, and particularly in 1916. This increase is more readily seen in Table 11.

Of course, some of the colleges had adopted earlier some numerical scheme of quantitative measurement. Table 10 shows the adoption of the unit by these colleges:

TABLE 10.—*Adoption of the standard unit, 1913–1922, by colleges already using some quantitative measure of entrance subjects*

| Colleges | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
|---|---|---|---|---|---|---|---|---|---|---|
| Colleges adopting the unit | ..... | 0 | 3 | 1 | 2 | 1 | 2 | 3 | 3 | 2 |
| Total adoptions after 1913 | ..... | 0 | 3 | 4 | 6 | 7 | 9 | 12 | 15 | 17 |
| Colleges not using unit | 26 | 26 | 23 | 22 | 20 | 19 | 17 | 14 | 11 | 9 |

It will be seen from these tables that nearly one-half of the colleges which in 1913 did not use the standard unit utilized some other method of measurement. In 1922 only 9 of the 305 colleges which use a quantitative measure did not use the standard unit. Of these 9 colleges that use other methods of measurement, 5 are colleges in Nebraska, and all require 30 "points," equivalent to 15 standard units, for entrance.[26] Three other Nebraska colleges changed from this system since 1915, as did also two Iowa colleges which were, apparently because of their accessibility, under the influence of the University of Nebraska.[27] Rutgers uses the term "point" for a standard unit. Whitman is the last of the western colleges to use "credit"[28] as its measure, the University of California, Mills, Whittier, and the State College of Washington all having changed their measure to the unit since 1917. Gustavus Adolphus and Union Colleges still use other measures than the standard unit.

As late as 1913 a considerable number of colleges still expressed admission requirements in a general statement, such as "graduation from an approved high school," in descriptions and outlines of work, with no mention of a unit of quantitative measurement. Table 11 shows the record of adoption of the unit by colleges which were using, up to that time, no measure at all.

TABLE 11.—*Adoption of the standard unit, 1913–1922, by colleges using no quantitative measure of entrance subjects*

| College | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
|---|---|---|---|---|---|---|---|---|---|---|
| Colleges adopting the unit | | 3 | 3 | 9 | 4 | 4 | 0 | 0 | 1 | 0 |
| Total adoptions after 1913 | | 3 | 6 | 15 | 19 | 23 | 23 | 23 | 24 | 24 |
| Colleges not using the unit | 33 | 30 | 27 | 18 | 14 | 10 | 10 | 10 | 9 | 9 |

As was noted before, the peak of the adoption came in 1916, when a number of Jesuit colleges adopted the unit. In 1922 only 9 of the 314 colleges do not use the standard unit. Eight of these are Catholic and one is Lutheran.

## DEVELOPMENT OF UNIT STANDARDS FOR COLLEGE ENTRANCE

Once the term "unit" was defined and accepted, it became necessary to state the number of units which should be required for entrance to college. This second step toward quantitative measurement has developed with the first, with perhaps a slight lag, since a few college catalogues show the adoption of the unit definitions

[26] University of Nebraska, Cotner, Doane, York, and Grand Island colleges.
[27] The Nebraska colleges were Creighton, Nebraska Wesleyan, and Hastings. The Iowa colleges were Morningside and Central.
[28] Thirty-two credits equal sixteen units.

of subjects at a certain time but do not state the number of units required for entrance until a year or so later.

It will be remembered that the earliest quantitative definitions were confined to the length of the school year, as for instance, the sentence previously quoted from the report of the National Council of Higher and Secondary Education in 1884 defining the high-school course as covering "four years." The Committee of Ten suggested 16, 18, or 20 periods a week for a period of four years. At the third meeting of the North Central Association, in 1897, the following sections were added to the constitution:

*Article III, Section 5.* No college or university shall be eligible to membership whose requirements for admission represent less than four years of secondary work.

*Section 7.* No secondary school shall be eligible to membership which does not have a four years' course of study.[28]

These are the foundation stones upon which total-unit requirement developed.

Two years later appears the first mention of number of units required for entrance to college. At this meeting of the same association a committee on college admission reported in favor of a "four years curriculum for high schools that should include as constants, English, two years; mathematics, two years; history, one year; science, one year; or 6 out of the *16 units*, the remainder being elective."[29] It is interesting to note that this was three years before the adoption of the standards which included even the definition of the unit.

In 1902 the association, after defining the unit, stated the quantity to be required as follows:

The graduation requirements of the high school and the entrance requirements of the college shall include 15 units as above defined.[30]

Two years later sections 5 and 7 quoted above were amended to read "15 units of secondary school work" in place of "four years" of such work.

The Carnegie Foundation for the Advancement of Teaching, in defining standards for college preparation in 1906, stated:

Fourteen units constitute the minimum amount of preparation which may be interpreted as "four years of academy or high-school preparation."[31]

In 1908 President Ayres proposed the following amendment to the by-laws of the Association of Colleges and Secondary Schools of the Southern States:

[28] Proc. third meeting N. Cen. Assoc., 1897.
[29] Proc. fifth meeting N. Cen. Assoc., 1899.
[30] Eighth Proc. N. Cen. Assoc., p. 8.
[31] First Rep. Carnegie Foundation, 1906, pp. 38, 39.

Candidates seeking full admission to college for any degree courses in a literary department must offer the following number of units: In 1909, eleven; 1910, twelve; 1911, thirteen; 1912 and thereafter, fourteen.[32]

Although this amendment failed to carry, it was symptomatic and prophetic. The following year the association adopted a standard of 14 units which should become operative in 1910.

The question of standard units and the number to be required came up before the Catholic Education Association in 1910. President O'Mahoney, after discussing the requirements for entrance to the various Catholic colleges, said:

Thus in every course 15 units are required, the only room for elective studies being in the choice of courses, which is given the student * * *.

A resolution determining the consensus of opinion of the Catholic college department of the Catholic Education Association on the number of units required for entrance, and a committee empowered by this association to study the actual entrance requirements of our Catholic colleges and classify them accordingly, would do more to raise the standards of our colleges than anything which has yet been done by Catholic educators.[33]

This plea bore fruit, for the following year the association adopted the standard unit and these resolutions:

1. That colleges demand 16 units for entrance to the freshman year of any program of studies.

2. That preparatory programs of studies leading up to the various degrees be formulated in detail.

3. That the amount of work represented by a unit in any subject shall be clearly and fully outlined.[34]

The Catholic colleges, slow to break away from descriptive statements of entrance requirements, have distinctly favored a 16-unit basis, once the change to a quantitative statement was made. Nearly all of the colleges which adopted the unit after 1912 adopted 16 units as the number required. This is, of course, in keeping with the above resolution. As has already been shown, the Jesuit colleges adopted the 16-unit basis to a considerable extent in 1915–1918. However, at the present time the Catholic Education Association recognizes the 15-unit basis, and most of these colleges have gravitated to this standard.

This steady movement toward 15 units as the basis for college entrance received a strong impetus in the form of the report of the committee of nine to the National Education Association in 1911. This report is unique from the fact that a justification of 15 units, rather than 16 or some other number, is made. It will be remembered that the Catholic Education Association adopted 16 units as its standard this same year, reporting as it did so, "One of the reasons for this (the adoption of 16 units) was that a number of

[32] Proc. fourteenth meeting, 1908, p. 6.
[33] Proc. Cath. Educ. Assoc., 1910, p. 161.
[34] Ibid., 1911, pp. 114, 115.

colleges demand 16 units for entrance, and it was agreed that our standard should measure up to the best."[36] The committee of nine reported in this connection as follows:

> We believe that 15 units is a better requirement than 16, because—
> (1) Quantity should be subordinated to quality.
> (2) Overstrain should be eliminated from the atmosphere of the school.
> (3) There should be one unit leeway; inasmuch as failure in one unit should neither cost the student an extra year, nor tempt the principal to permit such student to try to carry an extra unit the succeeding year.
> (4) Students of exceptional ability should be permitted to earn five units per year, thereby shortening the high-school period by one year.
> (5) Students poor in ability should be required to spend five years upon the course, attempting and performing three units each year, thereby diminishing failures and reducing excessive per capita cost of instruction.[37]

A little further on in the report is this statement, "Where 15 units are adopted as the required number, it would seem reasonable that physical training and chorus singing should not be counted toward the 15 units."[38]

The University of the State of New York reduced the number of "counts" required from 72 to 60 in 1914. These 60 counts are about the equivalent of 15 standard units. In 1915 the Association of American Colleges adopted 14 units as its standard for college entrance. This was the last of the more important associations to adopt the number 14. The movement toward 15 as a standard requirement, which has characterized the entire period under discussion, closed the period with a rush. The last four years have witnessed the adoption of this number by the following associations:[39] The National Conference Committee on Standards, 1919; the Association of Colleges and Secondary Schools of the Southern States, 1919; the Northwest Association of Secondary and Higher Schools, 1921; the New England Association of Colleges and Secondary Schools, 1921.

### ADOPTION OF THE VARIOUS UNIT STANDARDS, 1913–1922

—Table 12 shows the record of every adoption or change in all of the colleges of this study for the period 1913–1922.[40]

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[36] Proc. Cath. Educ. Assoc., 1912, p. 163.

[37] Proc. Nat. Educ. Assoc., 1911, p. 561.

[38] Units in physical education and chorus singing are never required and are rarely accepted. A committee recommended to the National Association of Secondary School Principals (1922) that 16 units be the basis of college entrance and that one unit be "health education."

[39] The Association of Colleges and Preparatory Schools of the Middle States and Maryland adopted, in 1919, the standard that colleges must "require for admission not less than four years of academy or high-school work or equivalent."

[40] In computing these amounts all colleges which had quantitative standards, whether the standard unit or not, were used. The amounts of the colleges not using the standard unit were transmuted into standard unit values.

TABLE 12.—*Adoption of the various unit standards for entrance by American colleges, 1913–1922*

[See explanation at end of table]

| Number of colleges | Years in which the standard was adopted or changed | | | | | | | | | | Final unit standard, 1922 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 14 units | 14½ units | 15 units | 16 units |
| 1 | 10 | | 11 | 14 | | | | 15 | | | | | 1 | |
| 1 | 10 | 14 | | | | | | 15 | | | | | 1 | |
| 1 | 13 | | | 15 | | | | | | | | | 1 | |
| 1 | | | | | | 13 | | 15 | | | | | 1 | |
| 2 | 14 | 14½ | | | | | | | | | | | | |
| 4 | 14 | | 15 | | | | | | | | | 2 | | |
| 1 | 14 | | 16 | | | | 15 | | | | | | 4 | |
| 3 | 14 | | | 15 | | | | | | | | | 1 | |
| 6 | 14 | | | | 15 | | | | | | | | 3 | |
| 1 | 14 | | | | 14½ | | 15 | | | | | | 6 | |
| 5 | 14 | | | | | 15 | | | | | | | 1 | |
| 2 | 14 | | | | | 14½ | | 15 | | | | | 2 | |
| 1 | 14 | | | | | 14½ | 15 | | | | | | 1 | |
| 4 | 14 | | | | | | 15 | | | | | | 4 | |
| 1 | 14 | | | | | | 16 | | | | | | | 1 |
| 1 | 14 | | | | | | 14½ | 15 | | | | | 1 | |
| 1 | 14 | | | | | | | 14½ | 15 | | | | | 1 |
| 9 | 14 | | | | | | | 15 | | 16 | | | | |
| 1 | 14 | | | | | | | 15 | | | | | 9 | |
| 1 | 14 | | | | | | | 16 | 15 | | | | 1 | |
| 1 | 14 | | | | | | | | 15 | | | | 1 | |
| 1 | 14 | 14 | 14½ | | | | | | | 15 | 1 | 9 | 1 | |
| | | | | 14 | | | | | 15 | | | 1 | 1 | |
| 4 | 14½ | | 15 | | | | | | | | | | 4 | |
| 2 | 14½ | | | 15 | | | | | | | | | 2 | |
| 1 | 14½ | | | | 15 | | | | | | | | 1 | |
| 2 | 14½ | | | | | | 15 | | | | | | 2 | |
| 4 | 14½ | | | | | | | 15 | | | | | 4 | |
| 4 | 14½ | | | | | | | | 15 | | | | 4 | |
| 1 | 14½ | | | | | | | | | 15 | | | 1 | |
| 9 | | | | | | | | | | | | | | |
| 1 | | | | 14½ | | | | | | 15 | | | 1 | |
| | | | | | | 14½ | | | | | | 1 | | |
| 1 | 15 | 16 | 15 | | | | | | | | | | | |
| 1 | 15 | 16 | | 15 | | | | | | 16 | | | 1 | |
| 179 | 15 | | | | | | | | | | | | | 1 |
| 2 | | 15 | | | | | | | | | | | 179 | |
| 2 | | | 15 | | | | | | | | | | 2 | |
| 2 | | | | 15 | | | | | | | | | 2 | |
| 1 | | | | | 15 | | | | | | | | 2 | |
| 1 | | | | | | | | | 15 | | | | 1 | |
| 1 | 15½ | | | | | | | | 16 | | | | 1 | |
| 4 | 16 | 15 | | | | | | | | | | | | 1 |
| 1 | 16 | 14½ | | | | 15 | | | | | | | 4 | |
| 1 | 16 | | 15 | | | | | | | | | | 1 | |
| 1 | 16 | | | | 15 | | | | | | | | 1 | |
| 2 | 16 | | | | | | | | | | | | 1 | |
| 10 | 10 | | | | | | | | 15 | | | | 2 | |
| 1 | | | 16 | | | | | 15 | | | | | | 10 |
| 3 | | | | 16 | | | | | | | | | 1 | |
| 1 | | | | 16 | | | | 15 | | | | | | 3 |
| 1 | | | | 16 | | | | | | 15 | | | 1 | |
| 2 | | | | | 16 | | | | | | | | 1 | |
| 1 | | | | | 16 | | | 15 | | | | | | 2 |
| 2 | | | | | | 16 | | 15 | | | | | 1 | |
| 2 | 16½ | | | | | | | 15 | | | | | 2 | |
| 1 | 18 | 14 | 11 | | | 15 | | | | | | | 1 | |
| 1 | 20 | | | | | | | | | | | | | 1 |
| Total | | | | | | | | | | | 1 | 13 | 271 | 20 |

EXPLANATION.—This table is read as follows: The top series reads, in 1913 one college had 10 units as its standard, requiring that number for admission. This was changed to 11 units in 1915, to 14 in 1916, and to 15 in 1920, at which figure it still remained in 1922. In the second series under standard 13 the college in 1913 had no quantitative standard. However, it adopted 13 units in 1918 and in 1920 changed to a 15-unit basis. The first series in 1914 standard shows that two colleges which in 1913 had 14 units as their standard changed to 14.5 in 1914 and made no other changes after that. In the 15-unit standard, 179 colleges have made no change since 1913.

The changes just shown individually are represented collectively in table 13, which shows the number of colleges having the various standards for each year of the period. For instance, in 1913 two colleges used the 10-unit basis, one (either one of these two or some other) was using this basis in 1914, but no college was using it in 1915 or after.

TABLE 13.—*Distribution of the colleges on basis of number of units required for entrance for period 1913–1922*

| Units | Number of colleges in the year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 10 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 13 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| 14 | 46 | 47 | 40 | 39 | 32 | 24 | 18 | 4 | 2 | 1 |
| 14.5 | 27 | 30 | 27 | 26 | 26 | 30 | 26 | 20 | 15 | 13 |
| 15 | 181 | 185 | 197 | 206 | 215 | 221 | 231 | 258 | 269 | 271 |
| 15.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 16 | 19 | 16 | 16 | 20 | 22 | 24 | 24 | 20 | 19 | 19 |
| 16.5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 |
| 18 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Total | 281 | 284 | 287 | 296 | 300 | 304 | 304 | 304 | 307 | 305 |

The average number of units required by all of the colleges for each year of the period is shown in Table 14.

TABLE 14.—*Average number of units required for entrance to college for each year, 1913–1922*[41]

| | Units | | Units |
|---|---|---|---|
| 1913 | 14.85 | 1918 | 14.93 |
| 1914 | 14.85 | 1919 | 14.99 |
| 1915 | 14.86 | 1920 | 15.00 |
| 1916 | 14.90 | 1921 | 15.04 |
| 1917 | 14.93 | 1922 | 15.05 |

Both the median and the mode are 15 units in each year of the period.

Half units are accepted universally by the colleges. A few colleges state that such half units must be in additional work already presented or in combinations of closely allied subjects such as are commonly found in the sciences and social science. The following statement from the catalogue of Oberlin College is typical of this limitation: "Half units will be accepted, but only when presented in addition to integral units in the same subject, and for these purposes the sciences may be considered as one subject."[42] A very few

[41] It is recognized that for general purposes the averages of such distributions as shown above would be valueless. However, the purpose here is to show the gradual increase of the average requirement from slightly under to slightly over 15 units.

[42] Oberlin College catalogue, 1916–17, p. 95.

colleges limit the number of half units which the applicant may present.

At the present time the total unit requirement for admission to any college does not vary, in that institution, with the degrees or courses which are offered. Provisions for crediting "quality" in satisfying entrance requirements are very rare.

## SUMMARY

The history of the unit is indissolubly bound up in the history of the flexibility of college entrance requirements. This history is represented by three periods, the first of about two centuries in extent, the second about 60 years, and the third, the last 25 years.

During the first period, entrance requirements were rigid and detailed, and there was no need of mathematical evaluation or expression of amounts of entrance subjects.

About the middle of the nineteenth century the elective system began to develop in American colleges, and with this came a complementary development in election in college entrance subjects.

The third period has witnessed a rapid increase in the amount of election allowed in entrance subjects and also in the appearance and development of free margin or unrestricted election. This greater allowance of election in entrance subjects was caused in the main by four factors: (1) The further expansion of the college curriculum; (2) the rapid development of the public high school; (3) the competition of the colleges for students; and (4) the development of State universities.

Hand in hand with the development of more freedom of election in entrance requirements came the development of quantitative measures of the subjects required or accepted. This development was made necessary because (1) by its very nature the greater amount of election had to be evaluated or equated on some basis, and (2) the development of transportation and the integration of the American people meant that colleges passed from local into State, regional, or National significance, and entrance requirements in terms commonly understood the country over became necessary, and (3) because of the influence of accrediting, examining, and certificating bodies.

A study of the catalogues of over 200 colleges reveals the fact that before 1900 only 9 were making use of any quantitative measure of entrance subjects and only 4 were using the term "unit" in its modern definition. From 1900 to 1913, of the 314 colleges of this study, 272 more adopted the standard unit.

A great many influences were responsible for the adoption of this measure of entrance requirements, chief among which were the various accrediting and standardizing agencies.

The problems of entrance credit for junior high-school work, and credit for quality, have as yet been little touched upon.

By 1922 all but 18 of the 314 colleges were using the standard unit. Of the 18, nine were using some other quantitative measure from which unit values could be easily computed, while only nine were using no quantitative measure at all in published requirements.

The 15-unit requirement has become practically universal. In 1913, of the colleges studied, 181 required 15 units for entrance, while 271 of the 305 colleges in 1922 required it. A few colleges still require 14.5 and a few 16 units. In 1922 only one college was requiring 14 units for entrance.

Half units are commonly accepted by colleges, if they are in subjects already offered or in closely allied subjects.

# CHAPTER IV

## ACADEMIC REQUIREMENTS FOR ENTRANCE TO COLLEGE

Basic to any discussion of college entrance requirements is consideration of subjects prescribed and accepted, and amounts of such subjects prescribed and accepted. College work presupposes preparation of a certain kind and amount. Examination, certification, and accrediting are all based upon subjects and amounts of subjects. These subjects and amounts do not remain the same for any considerable length of time for any college. Emphases change, and older subjects give way to newer subjects. With increasing demands made upon both the high school and the college, it is inevitable that there should result a multiplicity which fairly astounds not only the pupil but the professional curriculum maker himself. The present chapter will analyze the subjects and amounts required for entrance to college and point out the significant changes which have taken place during the period 1913–1922.

### THE TREND OF COLLEGE DEGREE DEVELOPMENT

Many popular articles have been written on the subject of college degrees. Not a few of them have pointed out great changes and tendencies of various sorts. Most of them have been written about a few colleges or with few colleges in mind. Table 15 shows the trend of college degree development for all of the 314 colleges used in this study. The table lists the colleges according to what degree, or degrees, they give and shows all changes that have occurred during the past 10 years.

TABLE 15.—*The trend of college degree*

| | Degree classification | Number of colleges offering these degrees in 1913 | Degrees added or withdrawn in the year— 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 100 | | | | | | | | | |
| 2 | | 1 | +B. S. | −B. S. | | | | | | | |
| 3 | | 1 | +B. S. | | | | | | | Ph. B. | |
| 4 | | 2 | +B. S. | | | | | | | | |
| 5 | | 1 | | +B. S. | | | | | | | |
| 6 | | 1 | | + B. S. Litt. B. Ph. B. | | | | | | | |
| 7 | A. B. | 1 | | | + B. S. Litt. B. Ph. B. | | | | | | |
| 8 | | 3 | | | | +B. S. | | | | | |
| 9 | | 1 | | | | +Ph. B. | | | | | |
| 10 | | 1 | | | | | +B. S. | | | | |
| 11 | | 1 | | | | | +Ph. B. | | | | |
| 12 | | 1 | | | | | + B. S. + Ph. B. | | | − B. S. + Litt. B. | |
| 13 | | 2 | | | | | | +B. S. | | | |
| 14 | | 1 | | | | | | | +B. S. | | |
| 15 | | 1 | | | | | | | | | +B. S. |
| 16 | | 9 | | | | | | | | | |
| 17 | B. S. | 1 | | | | +A. B. | | | | | |
| 18 | | 1 | | | | | | +A. B. | | | |
| 19 | B. L. | 1 | | | | | | | | − B. L. + A. B. | |
| 20 | | 109 | | | | | | | | | |
| 21 | | 1 | −B. S. | | | | | | | | |
| 22 | | 2 | | −B. S. | | | | | | | |
| 23 | | 1 | | +B. L. | | | | | | | |
| 24 | | 2 | | | −B. S. | | | | | | |
| 25 | | 1 | | | + Ph. B. | | | | | | |
| 26 | | 1 | | | + Litt. B. + Ph. B. | | | | | − Litt. B. − Ph. B | |
| 27 | A. B. B. S. | 1 | | | | + Litt. B. − B. S. | | | | | |
| 28 | | 2 | | | | | −B. S. | | | | |
| 29 | | 2 | | | | | | −B. S. | | | |
| 30 | | 3 | | | | | | | −B. S. | | |
| 31 | | 2 | | | | | | | + Ph. B. | | |
| 32 | | 2 | | | | | | | + B. L. | | |
| 33 | | 1 | | | | | | | | −B. S. | |
| 34 | | 2 | | | | | | | | | −B. S. |
| 35 | | 2 | | | | | | | | | + Ph. B. |
| 36 | | 1 | | | | | | | | | |
| 37 | A. B. B. L. | 1 | | | | | | | | | |
| 38 | | 3 | | | | | | | | | |
| 39 | | 1 | − Ph. B. + B. S. | | | | | | | | |
| 40 | A. B. Ph. B. | 1 | | − Ph. B. + B. S. | | | | | | | |
| 41 | | 1 | | | | | +B. S. | | | | |
| 42 | | 1 | | | | | | | − Ph. B. + Litt. B. | | − Litt. B. |

EXPLANATION.—By "degree classification" is meant the combination of degrees which the colleges offer; some offer only the A. B.; some the A. B., B. S., Ph. B., etc. The figures under the year 1913 indicate the number of colleges in the particular degree classification in 1913. The addition and subtraction of degrees as shown under the appropriate year, while the "final" classification of the colleges, according to the degree or degree combination they offered in 1922, is shown in the last columns.

*development during the period 1913-1922*

Number of colleges offering these degrees in 1922

| A. B. | B. S. | A. B., B. S. | A. B., Litt. B. | A. B., Ph. B. | A. B., B. L. | A. B., B. S., Ph. B. | A. B., B. S., Litt. B. | A. B., B. S., B. L. | A. B., Ph. B., Litt. B. | A. B., B. S., Ph. B., Litt. B. | A. B., B. S., B. L., Ph. B. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | | | | | | | | | | | | 1 |
| 1 | | | | | | | | | | | | 2 |
| | | | | | | 1 | | | | | | 3 |
| | | 2 | | | | | | | | | | 4 |
| | | 1 | | | | | | | | | | 5 |
| | | | | | | | | | | 1 | | 6 |
| | | | | | | | | | | 1 | | 7 |
| | | 3 | | | | | | | | | | 8 |
| | | | | 1 | | | | | | | | 9 |
| | | 1 | | | | | | | | | | 10 |
| | | | | 1 | | | | | | | | 11 |
| | | | | | | | | | 1 | | | 12 |
| | | 2 | | | | | | | | | | 13 |
| | | 1 | | | | | | | | | | 14 |
| | | 1 | | | | | | | | | | 15 |
| | 9 | | | | | | | | | | | 16 |
| | | 1 | | | | | | | | | | 17 |
| | | 1 | | | | | | | | | | 18 |
| 1 | | | | | | | | | | | | 19 |
| | | 109 | | | | | | | | | | 20 |
| 1 | | | | | | | | | | | | 21 |
| 2 | | | | | | | | | | | | 22 |
| | | | | | | | | | 1 | | | 23 |
| 2 | | | | | | | | | | | | 24 |
| | | | | | | 1 | | | | | | 25 |
| | | 1 | | | | | | | | | | 26 |
| | | | | | | | 1 | | | | | 27 |
| 2 | | | | | | | | | | | | 28 |
| 2 | | | | | | | | | | | | 29 |
| 3 | | | | | | | | | | | | 30 |
| 2 | | | | | | | | | | | | 31 |
| | | | | | | 2 | | | | | | 32 |
| | | | | | | | | | 1 | | | 33 |
| 2 | | | | | | | | | | | | 34 |
| 2 | | | | | | | | | | | | 35 |
| | | | | | | 1 | | | | | | 36 |
| | | | | | 1 | | | | | | | 37 |
| | | | | 3 | | | | | | | | 38 |
| | | 1 | | | | | | | | | | 39 |
| | | 1 | | | | | | | | | | 40 |
| | | | | | | 1 | | | | | | 41 |
| 1 | | | | | | | | | | | | 42 |

The table is read as follows: In the first series, under "A. B." in 1913, there were 100 colleges which gave only the A. B. degree and these made no changes during the period 1913–1922. In the second series under "A. B.," one college in 1914 added the B. S. degree, but withdrew it in 1915, and since then offers only the A. B. In some instances several colleges offering the same degree (or degrees) made identical changes at the same time. For instance, in the third series of "A. B., B. S." two colleges withdrew the B. S. degree at the same time, 1915, and have offered only the A. B. since then.

TABLE 15.—*The trend of college degree development*

| | Degree classification | Number of colleges offering these degrees in 1913 | Degrees added or withdrawn in the year— 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 43 | | 9 | | | | | | | | | |
| 44 | | 2 | −Ph. B. | | | | | | | | |
| 45 | | 1 | | −Ph. B. | | −B. S. | | | +B. S. | | |
| 46 | | 1 | | −B. S.<br>−Ph. B. | | | +B. S.<br>+Ph. B. | | | | |
| 47 | A. B. | 1 | | | −Ph. B. | | | | | | |
| 48 | B. S.<br>Ph. B. | 1 | | | −B. S.<br>−Ph. B. | | | | | | |
| 49 | | 5 | | | | −Ph. B. | | | | | |
| 50 | | 1 | | | | | −Ph. B. | | | | |
| 51 | | 1 | | | | | | −Ph. B. | | | |
| 52 | | 2 | | | | | | | −Ph. B. | | |
| 53 | | 1 | | | | | | | | | −Ph. B. |
| 54 | | 2 | | | | | | | | | |
| 55 | | 1 | −B. S. | | | | | | | | |
| 56 | | 1 | | | +Ph. B. | | | | | −Ph. B.<br>−Litt. B. | |
| 57 | A. B.<br>B. S.<br>Litt. B. | 1 | | | | −B. S.<br>−Litt. B. | | | | | |
| 58 | | 1 | | | | | −Litt. B. | | | | |
| 59 | | 1 | | | | | | | −Litt. B. | | |
| 60 | | 1 | | | | | | | | −Litt. B. | |
| 61 | | 2 | | | | | | | | | |
| 62 | A. B. | 1 | −B. L. | | | | | | | | |
| 63 | B. S. | 1 | | −B. L.<br>−B. S. | | | | | | | |
| 64 | B. L. | 1 | | | −B. L. | | | | | | |
| 65 | A. B.<br>B. S.<br>Litt. B.<br>Ph. B. | 1 | | | | | | | | | |
| 66 | A. B.<br>B. S. | 1 | | | | | −B. S. | +B. S. | | | |
| 67 | B. L.<br>Ph. B. | 1 | | | | | −B. L.<br>−Ph. B. | | | | |
| | Total | | | | | | | | | | |

EXPLANATION.—By "degree classification" is meant the combination of degrees which the colleges offer; some offer only the A. B.; some the A. B., B. S., Ph. B., etc. The figures under the year 1913 indicate the number of colleges in the particular degree classification in 1913. The addition and subtraction of degrees is shown under the appropriate year, while the "final" classification of the colleges, according to the degree or degree combination they offered in 1922, is shown in the last columns.

*during the period 1913–1922*—Continued

| Number of colleges offering these degrees in 1922 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A. B. | B. S. | A. B., B. S. | A. B., Litt. B. | A. B., Ph. B. | A. B., B. L. | A. B., B. S., Ph. B. | A. B., B. S., Litt. B. | A. B., B. S., B. L. | A. B., Ph. B., Litt. B. | A. B., B. S., Ph. B., Litt. B. | A. B., B. S., B. L., Ph. B. | |
| | | | | | | 9 | | | | | | D. |
| | | 2 | | | | | | | | | | 43 |
| | | 1 | | | | | | | | | | 44 |
| | | | | | | | | | | | | 45 |
| | | | | | | 1 | | | | | | 46 |
| | | 1 | | | | | | | | | | 47 |
| 1 | | | | | | | | | | | | 48 |
| | | 5 | | | | | | | | | | 49 |
| | | 1 | | | | | | | | | | 50 |
| | | 1 | | | | | | | | | | 51 |
| | | 2 | | | | | | | | | | 52 |
| | | 1 | | | | | | | | | | 53 |
| | | | | | | | 2 | | | | | 54 |
| | | | 1 | | | | | | | | | 55 |
| | | 1 | | | | | | | | | | 56 |
| | | | | | | | | | | | | 57 |
| | | 1 | | | | | | | | | | 58 |
| | | 1 | | | | | | | | | | 59 |
| | | 1 | | | | | | | | | | 60 |
| | | | | | | | | 2 | | | | 61 |
| | | 1 | | | | | | | | | | 62 |
| 1 | | | | | | | | | | | | 63 |
| | | 1 | | | | | | | | | | 64 |
| | | | | | | | | | | 1 | | 65 |
| | | | | | | | | | | | 1 | 66 |
| | | 1 | | | | | | | | | | 67 |
| 111 | 9 | 146 | 1 | 5 | 1 | 16 | 3 | 4 | 1 | 3 | 1 | |

The table is read as follows: In the first series, under "A. B." in 1913, there were 100 colleges which gave only the A. B. degree and these made no changes during the period 1913-1922. In the second series under "A. B.," one college in 1914 added the B. S. degree, but withdrew it in 1915, and since then offers only the A. B. In some instances several colleges offering the same degree (or degrees) made identical changes at the same time. For instance, in the third series of "A. B., B. S." two colleges withdrew the B. S. degree at the same time, 1915, and have offered only the A. B. since then.

The totals for each classification for the years 1913 and 1922 are shown in Table 16:

TABLE 16.—*Total number of colleges in each degree classification in 1913 and 1922*

| | 1913 | 1922 | | 1913 | 1922 |
|---|---|---|---|---|---|
| A. B. | 118 | 124 | B. S., Ph. B. | 25 | 16 |
| B. S. | 11 | 9 | A. B., B. S., Litt. B. | 8 | 3 |
| B. L. | 1 | 0 | A. B., B. S., B. L. | 5 | 4 |
| A. B., B. S. | 135 | 146 | A. B., Ph. B., Litt. B. | 0 | 1 |
| A. B., Litt. B | 0 | 1 | A. B., B. S., Litt. B., Ph. B | 1 | 3 |
| A. B., Ph. B | 7 | 5 | A. B., B. S., B. L., Ph. B | 2 | 1 |
| A. B., B. L | 1 | 1 | | | |

It will be seen that the greatest changes are in the subtraction from the "A. B., B. S., Litt. B." and the "A. B., B. S., Ph. B." group, and in the addition to the "A. B." and the "A. B., B. S." group. The other groups remain about the same.

Of the 314 colleges, 77 made some change in degrees offered during this period. Most of the changes centered about the B. S. and Ph. B. degrees, as shown in Table 17:

TABLE 17.—*College degrees added or withdrawn, 1913–1922* [1]

| | | | |
|---|---|---|---|
| A. B.: | | B. L.: | |
| Added | 3 | Added | 2 |
| Withdrawn | 0 | Withdrawn | 5 |
| B. S.: | | Litt. B.: | |
| Added | 22 | Added | 6 |
| Withdrawn | 28 | Withdrawn | 7 |
| Ph. B.: | | | |
| Added | 13 | | |
| Withdrawn | 21 | | |

This table shows that 3 colleges added the A. B. degree during the period, and that no college withdrew it. Similarly 22 colleges added the B. S. degree, while 28 withdrew it, etc. Thus it is seen that 107 changes in degrees were made by 77 colleges during the period.

Table 18 shows the number of colleges offering each of the degrees, either singly or in combination, for the years 1913 and 1922:

TABLE 18.—*Number of colleges offering each degree for the years 1913 and 1922*

| Years | A. B. | B. S. | Ph. B. | B. L. | Litt. B. |
|---|---|---|---|---|---|
| 1913 | 302 | 187 | 35 | 9 | 9 |
| 1922 | 305 | 182 | 26 | 6 | [illegible] |

That there is a slight trend toward a one or two degree offering is shown in Table 19. This table shows the number of colleges

[1] The figures will not total 77 because several of the colleges adopted or changed more than one degree at the same time or at different times during the period.

which in 1913 and 1922 had one-degree, two-degree, three-degree, and four-degree curricula.

TABLE 19.—*Number of colleges offering one, two, three, and four degrees in 1913 and 1922*

| Year. | Number of degrees | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| 1913 | 130 | 143 | 38 | 3 |
| 1922 | 133 | 153 | 24 | 4 |

It will be seen that the four-degree group gained 1, the three-degree group lost 14, while the two-degree group gained 10, and the one-degree group gained 3.

In brief, while it may be said that about one-fourth of the colleges made changes in degrees offered during the period, there has been little total or net change.

## SINGLE ADMISSION REQUIREMENTS TO ALL DEGREES

Table 20 shows the trend toward single admission requirements to all degrees a college may offer:

TABLE 20.—*Development of single admission requirements to all degrees offered, 1913–1922*

| Number of degrees | Number of colleges in the year— | | | | | | | | | | Total | Corrected total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | | |
| 2 | 47 | 3 | 4 | 2 | 4 | 2 | 3 | 5 | 1 | 2 | 72 | 73 |
| 3 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 9 | 8 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| Total | 52 | 4 | 4 | 2 | 4 | 3 | 3 | 5 | 3 | 3 | 82 | 82 |

Table 20 is read as follows: The top series shows that 47 colleges offering two degrees in 1913 had identical admission requirements for both degrees, and in 1914 three more colleges made the requirements for the two degrees identical.

Five of the above two-degree colleges dropped one of these degrees during the period. This would reduce the total of 72 to 67. At the same time one of the three-degree colleges dropped one degree, thus reducing the total from 9 to 8 and increasing the two-degree total from 67 to 68. In addition to the above, five other colleges, offering in 1913 three degrees each with separate requirements, changed to a two-degree-identical-requirement basis during the 10 years. This means that 73 colleges (68 plus 5) offering two degrees in 1922 used but a single requirement for both of them.

In addition to the above, seven colleges offering three degrees each have the same requirements for two of the three degrees. Five of the seven adopted this method subsequent to 1913. In 1914 one of the four-degree colleges dropped one degree and adopted a single set of requirements for two of the three remaining degrees, thus making eight three-degree colleges which have a single requirement for two of the three degrees.

These figures show that there is a decided trend toward single admission to all degrees a college may offer. In 1913, 54 colleges used the same requirements for admission to more than one degree; in 1922 this number had increased to 90. This represents an increase of from 17.2 to 28.7 per cent of all of the 314 colleges. Taking the two-degree colleges as a basis, the increase is from 32.7 per cent in 1913 to 47.7 per cent in 1922.[2]

Moreover, these figures represent but a part of the single-admission movement. The other part is to be found in the disappearance of "groups" from college curricula. For instance, a college may offer but a single degree and yet have two or three different groups or curricula, each of which requires a distinctive set of admission requirements. In such a case admission may be gained by satisfying any one of the two or three different sets of requirements. In a few instances colleges have offered two or three degrees and had such groups under each degree. Of the 314 colleges, 18 had such groups in 1913, but by 1922 this number had decreased to 6.[3]

## COLLEGE ENTRANCE REQUIREMENTS IN ENGLISH

Any college that makes any definite requirement for entrance at all requires English. Table 21 shows the number of units of English required for entrance, all degrees being considered together, for the period 1913–1922:[4]

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[2] These figures do not represent the increase exactly, because in 1913 there were 143 two-degree colleges, while in 1922 there were 153.

[3] This number, 6, includes one or two colleges that adopted this group system since 1913.

[4] The figures used in the tables on English represent 310 colleges.

"Degrees" also includes "groups." For instance, a college may offer only the A. B. degree and yet have two or three sets of entrance requirements, and an applicant may be regularly admitted by satisfying any one of the two or three sets of requirements. Occasionally a college has groups under all degrees it offers. In 1913 the 314 colleges of the study represented 542 degrees and 28 additional groups, making a total of 570 sets of entrance requirements. As was noted before, both degrees and groups have decreased since 1913, so that in 1922 the 314 colleges represented 527 degrees and 15 additional groups, thus making a total of 542 sets of entrance requirements.

All percentages in the various tables are computed on the basis of the totals for that particular year. Thus the percentages for the various years are comparable. The percentages represented in all tables showing data for "Total degrees," "All degrees," etc., may be understood to be approximately those percentages of "colleges," since they represent all degrees. For instance, in Table 21 85 per cent of the total degrees in 1913 required three units of English for entrance. This may be read, with approximate correctness, 85 per cent of the colleges made this requirement. It is obviously quite impossible to arrive at an absolutely accurate figure representing percentages of "colleges" requiring certain subjects or amounts of subjects, because colleges with two or three degrees often require different amounts and different subjects for the different degrees. However, the above approximation is accurate enough for all practical purposes.

TABLE 21.—*Number and per cent of degrees requiring for entrance to college certain units of English, in 1913–1922*

| Units | Number of degrees requiring in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | 13 | 13 | 13 | 13 | 13 | 17 | 19 | 19 | 19 | 19 |
| Per cent | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 4 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Per cent | 11 | 11 | 38 | 38 | 36 | 35 | 34 | 31 | 29 | 27 |
| 2.5 | 2 | 2 | 7 | 7 | 7 | 7 | 6 | 6 | 5 | 5 |
| 3 | 475 | 475 | 478 | 479 | 477 | 476 | 471 | 476 | 477 | 480 |
| Per cent | 85 | 85 | 86 | 86 | 87 | 87 | 86 | 87 | 88 | 89 |
| 3.5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 |
| 4 | 25 | 23 | 20 | 18 | 18 | 17 | 19 | 19 | 16 | 11 |
| Total | 560 | 557 | 554 | 553 | 549 | 548 | 545 | 546 | 542 | 538 |

It will be seen that there is little change during the period in the requirements in English. Previous to 1913 English had become a "staple" in entrance requirements, and the amount required was almost always 3 units. Table 21 shows that the 2-unit requirement decreased from 8 to 5 per cent and the 4-unit from 4 to 2 per cent, while the 3-unit requirement increased from 85 to 89 per cent, but these changes are relatively small. The number of degrees requiring no English increased from 13 to 19, or about 2 per cent. These figures represent colleges which make no definite requirement at all, since if any requirements were made the first would probably be English. Of course this does not mean that English would not be expected by the colleges making no prescription. The 2.5 unit standard represents a single college offering two degrees, as does also the 3.5 unit standard.

## MAXIMUM CREDIT ALLOWED FOR ENGLISH

Table 22 shows the maximum amount of credit allowed for English in satisfying entrance requirements:

TABLE 22.—*Maximum number of units of English accepted for entrance to college, all degrees being considered together*[1]

| Units | Number of degrees accepting in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| | 99 | 97 | 93 | 88 | 82 | 83 | 83 | 84 | 85 | 79 |
| | 240 | 246 | 248 | 261 | 269 | 275 | 278 | 283 | 285 | 292 |

[1] The figures represent only those colleges which definitely state the amount of credit allowed. It is very probable that all, or nearly all, of those colleges which do not state a maximum would allow 4 units, because four years are frequently given to English in the high school, and if the applicant for college admission were to be allowed to offer but 3 units the college would undoubtedly warn him by stating the maximum as 3. No college, regularly, gives credit for more than 4 units. The figures in the table do not include those colleges which require 4 units. Were they included, the 4-unit total would be increased by an average of 19 in each year.

Table 22 shows that there is a clearly defined trend away from 3 units, and toward 4 units, as the maximum amount of English accepted. This trend is slightly greater in the B. S. than in the other degrees. A few colleges state that four years of high-school work in English are required for 3 units of credit.[5] However, the number of colleges so stating is decreasing.

## COLLEGE ENTRANCE REQUIREMENTS IN MATHEMATICS

Mathematics is required for entrance by practically all of the colleges which make any definite requirement at all. The two most notable exceptions are Leland Stanford and the University of Chicago, which require English only. The subjects which normally constitute mathematics are advanced arithmetic, algebra, plane geometry, solid geometry, and trigonometry.[6]

The usual unit values of these subjects are: Advanced arithmetic, 0.5; algebra, 1, 1.5, and 2; plane geometry, 1; solid geometry, 0.5; and trigonometry, 0.5. Thus, if a college required all of these subjects, including the maximum in algebra, they would total 4.5 units. Table 23 shows the number of units of mathematics required and the frequency of each requirement for all degrees combined:[7]

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[5] For instance, Pennsylvania College states that "as the first English work in the high-school or preparatory-school course is largely grammar, the credit granted in English is one unit less than the number of years' work in the subject." (Catalogue, 1918-19, p. 17.)

A variation in maximum is the requirement of the University of Minnesota, which requires 4 units of English or 3 units of English plus 4 units of foreign language, either 4 units of one language or 2 units of two languages.

[6] Commercial arithmetic, in this study, is classed as a commercial subject. It is never required, but an increasing number of colleges are accepting it for credit.

[7] Three hundred and one of the colleges state definite requirements in mathematics; 282 of these 301 are represented in the tables of this section. The other 19 colleges were not used for the following reasons:

*A.* A very few colleges state that mathematics is required but do not state the exact amount.

*B.* Such a statement as a "major or minor" (3 or 2 units) is too variable to tabulate. Since it might be either of the two amounts, its presence or absence in the table would not change matters much.

*C.* Several colleges, for instance, the University of Nebraska and four other Nebraska institutions, state that the applicant must offer 2 units of mathematics and 3 of foreign language, or vice versa. Here again, either 2 or 3 units are "required," and since either might be accepted, the table would not be materially affected by the addition of these requirements.

Consequently, on the whole, there is no reason to believe that these additional records would represent trends any different from those shown.

TABLE 23.—*Number of units of mathematics required for entrance to college, and the frequency of each requirement, all degrees being considered*

| Units | | Number of degrees requiring in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | | 19 | 22 | 23 | 23 | 21 | 25 | 26 | 29 | 28 | 28 |
| | Per cent | 4 | 4 | 5 | 4 | 4 | 5 | 5 | 6 | 6 | 6 |
| 1 | | 0 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 5 |
| 1.5 | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | | 113 | 127 | 142 | 177 | 191 | 202 | 218 | 228 | 231 | 239 |
| | Per cent | 21 | 25 | 28 | 32 | 37 | 40 | 42 | 44 | 46 | 48 |
| 2.5 | | 278 | 266 | 251 | 230 | 218 | 197 | 187 | 178 | 173 | 165 |
| | Per cent | 52 | 52 | 50 | 44 | 43 | 38 | 36 | 35 | 35 | 33 |
| 3 | | 110 | 91 | 85 | 78 | 70 | 76 | 73 | 68 | 53 | 55 |
| | Per cent | 21 | 18 | 17 | 15 | 13 | 15 | 14 | 13 | 10 | 11 |
| 3.5 | | 5 | 5 | 5 | 6 | 6 | 8 | 8 | 7 | 10 | 7 |
| 4 | | 2 | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 2 | 2 |
| | Total degrees | 518 | 514 | 513 | 518 | 511 | 514 | 516 | 513[89] | 501 | 501 |

It will be seen from Table 23 that the trend is toward a 2-unit basis and away from the 2.5 and 3 unit bases. While there is comparatively little change at the extremes, below 2 and above 3 units, the middle figures change considerably. The 2-unit basis increases from 21 to 48 per cent, while the 2.5-unit basis decreases from 53 to 33 per cent, and the 3-unit basis from 21 to 11 per cent. A portion of the remaining part of this section on mathematics will be spent in an analysis to discover what subjects are responsible for this rapid decrease in the amount of mathematics required for entrance to college.

It is true, of course, that the different degrees, to some extent, have different requirements for entrance. In order to show clearly the relative develo[illegible] of the A. B. and B. S. requirements, Table 24 is presented. [illegible]ple is composed of the percentages of the 2, 2.5, and 3 unit standards for the A. B. and B. S. degrees.

TABLE 24.—*A comparison of the A. B. and B. S. degrees in amounts of mathematics required for entrance*

| Units | Degrees | Percentages required in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 2 | A. B. | 24 | 26 | 29 | 35 | 39 | 41 | 43 | 45 | 47 | 48 |
| | B. S. | 14 | 21 | 24 | 31 | 34 | 35 | 38 | 42 | 43 | 46 |
| 2.5 | A. B. | 50 | 52 | 47 | 44 | 42 | 40 | 36 | 36 | 35 | 33 |
| | B. S. | 56 | 54 | 51 | 46 | 44 | 40 | 39 | 38 | 38 | 35 |
| 3 | A. B. | 26 | 17 | 15 | 13 | 12 | 13 | 13 | 12 | 10 | 10 |
| | B. S. | 24 | 21 | 20 | 19 | 17 | 17 | 16 | 16 | 11 | 11 |

Table 24 shows that the requirements in mathematics for entrance to the B. S. degree are slightly higher than for entrance to the A. B.

degree. It also shows that the B. S. requirements have changed more rapidly than those for the A. B. degree. For 1922 the percentages in the three standards are approximately the same, but in 1913 the B. S. had 6 per cent more 2.5-unit standards and 4 per cent more 3-unit standards than the A. B., and at the same time had 10 per cent fewer 2-unit standards. Roughly, this means that the B. S. changed its requirements in mathematics about 15 per cent faster than the A. B. did.

Table 25 shows the changes in mathematical subjects for the period under study:

TABLE 25.—*Total requirements in the mathematical subjects for all degrees*

| Subject | Number of degrees requiring the mathematical subjects in | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| Algebra | 499 | 491 | 489 | 494 | 489 | 488 | 489 | 481 | 472 | 471 |
| Per cent | 96 | 96 | 96 | 96 | 96 | 95 | 95 | 94 | 94 | 94 |
| Plane geometry | 497 | 489 | 487 | 490 | 486 | 483 | 484 | 478 | 469 | 468 |
| Per cent | 96 | 96 | 96 | 95 | 95 | 94 | 94 | 93 | 93 | 93 |
| Solid geometry | 83 | 70 | 56 | 46 | 37 | 32 | 27 | 22 | 17 | 15 |
| Per cent | 17 | 13 | 11 | 9 | 7 | 6 | 5 | 4 | 3 | 3 |
| Trigonometry | 6 | 6 | 6 | 7 | 7 | 7 | 5 | 5 | 4 | 2 |
| Total degrees[1] | 518 | 514 | 513 | 518 | 511 | 511 | 516 | 513 | 501 | 501 |

[1] "Total degrees" is not the total of the columns above, since a college might require all of the subjects listed. This total is the total number of degrees considered in this section. The percentages were computed on this basis of "total degrees."

It will be seen that during the period under discussion algebra and plane geometry change but little. In other words, these two subjects are required for entrance to practically all colleges, and they have become such a solid part of entrance requirements that 10 years mark little change in the number of degrees that require them. The slight changes seen in the number of degrees requiring them are due almost entirely to the dropping or addition of degrees or groups. The percentages remain about the same throughout the period. This table refers only to subjects and not to amounts of subjects.

With but very few exceptions the degrees which require algebra for entrance also require plane geometry. One variation from the usual algebra-plane geometry requirement is that of Ottawa University, which requires 2 units of "any mathematics," and another is that of the University of North Dakota, which requires 1 unit of either algebra or geometry.

Solid geometry and trigonometry have practically disappeared as requirements for entrance to college. The table shows that 17 per cent of the 518 degrees required solid geometry in 1913, while in 1922 only 3 per cent required it. Trigonometry never has been required to any extent, but even the small total of six degrees requiring it in 1913 had decreased to two in 1922.

The amounts of credit allowed for plane geometry, solid geometry, and trigonometry are invariably 1 unit, 0.5 unit, and 0.5 unit, respectively. Algebra ranges from 1 to 2 units. Table 26 shows the total requirements in algebra, for each of the amounts, for all degrees:

TABLE 26.—*Number of units of algebra required for entrance to college, and the frequency of each requirement, all degrees being considered*

| Units | | Number of degrees requiring certain units of algebra in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | | 19 | 22 | 23 | 23 | 21 | 27 | 26 | 29 | 28 | 28 |
| | Per cent | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 |
| 1 | | 112 | 121 | 135 | 103 | 181 | 196 | 208 | 225 | 223 | 235 |
| | Per cent | 22 | 24 | 26 | 21 | 35 | 38 | 40 | 42 | 45 | 47 |
| 1½ | | 326 | 319 | 301 | 275 | 259 | 223 | 218 | 196 | 180 | 177 |
| | Per cent | 63 | 62 | 60 | 53 | 51 | 45 | 42 | 39 | 38 | 35 |
| 2 | | 61 | 51 | 50 | 54 | 49 | 62 | 63 | 66 | 64 | 59 |
| | Per cent | 12 | 10 | 10 | 11 | 10 | 12 | 12 | 13 | 12 | 12 |
| Total degrees | | 518 | 513 | 512 | 507 | 510 | 513 | 515 | 512 | 500 | 499 |

Table 26, in addition to Table 29, explains the cause of the trend toward a 2-unit entrance requirement in mathematics, as shown in Table 23.[8] It will be seen that the number of degrees requiring 1.5 units of algebra decreased 28 per cent, 1913–1922, while the number requiring but 1 unit more than doubled during the same period. Table 27 shows a comparison of the A. B. and B. S. degrees in amounts of algebra required for entrance:

TABLE 27.—*A comparison of the A. B. and B. S. degrees in amount of algebra required for entrance*

| Units | Degree | Percentages of algebra required for entrance in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | A. B | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 |
| | B. S | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| 1 | A. B | 22 | 24 | 28 | 34 | 37 | 39 | 41 | 43 | 46 | 50 |
| | B. S | 18 | 18 | 22 | 26 | 32 | 33 | 36 | 40 | 41 | 43 |
| 1½ | A. B | 63 | 63 | 56 | 51 | 48 | 44 | 41 | 38 | 39 | 32 |
| | B. S | 67 | 66 | 65 | 59 | 56 | 49 | 47 | 43 | 44 | 43 |
| 2 | A. B | 10 | 9 | 9 | 10 | 10 | 11 | 11 | 12 | 12 | 12 |
| | B. S | 13 | 12 | 12 | 13 | 11 | 14 | 14 | 14 | 12 | 11 |

From Table 27 it is clear that the B. S. degree requires slightly more algebra than the A. B. The percentages for the "no-requirement" group are twice as large for the A. B. as for the B. S. (The number of cases in each instance is, however, small.) The percent-

[8] A 2-unit basis would mean algebra and geometry, each 1 unit, in practically all instances. A 2.5-unit basis would generally mean algebra 1.5 units and geometry 1 unit, or algebra and geometry each 1 unit and solid geometry 0.5 unit. A decrease in algebra from 1.5 to 1 unit would then help to explain the decrease in mathematics totals from 2.5 to 2 units.

ages for the 1-unit basis are lower for the B. S., while those for the 1.5-unit basis are higher. Moreover, the figures show that the A. B. changed from the 1.5-unit basis and to the 1-unit basis more than the B. S. did. The net change from the 1.5-unit basis during the period was 31 per cent for the A. B. and 24 per cent for the B. S., while the net changes to the 1-unit basis were 28 per cent for the A. B. and 25 per cent for the B. S. The 2-unit bases remain practically the same.

Although represented by many fewer degrees than either the A. B. or the B. S., the Ph. B. requirements in algebra show the same trend—the 1-unit basis increasing at the expense of the 1.5 and 2-unit bases. The figures for the Litt. B. and B. L. degrees show somewhat the same trend, but the number of degrees is too small to justify any broad generalization.

The requirements in plane geometry are shown in Table 28. Since 1 unit is invariably required and accepted, no amounts are designated. Practically all of the changes noted are due to changes in degrees.

TABLE 28.—*Frequency of requirement of plane geometry for entrance to the various degrees*

| Degree | Number of degrees requiring plane geometry in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| A. B. | 293 | 275 | 278 | 280 | 290 | 275 | 277 | 274 | 267 | 271 |
| B. S. | 165 | 170 | 169 | 169 | 165 | 167 | 178 | 167 | 169 | 163 |
| Ph. B. | 32 | 29 | 26 | 26 | 25 | 26 | 27 | 23 | 23 | 21 |
| Litt. B. | 8 | 8 | 9 | 9 | 9 | 9 | 8 | 9 | 8 | 8 |
| B. L. | 9 | 7 | 5 | 6 | 7 | 6 | 6 | 5 | 7 | 5 |
| Total degrees | 497 | 489 | 487 | 490 | 496 | 483 | 484 | 478 | 469 | 468 |

Table 29 shows the changes in requirements of solid geometry. Since a prescription of one-half of a unit is invariable, no amounts are shown.

TABLE 29.—*Frequency of requirement of solid geometry for entrance to the various degrees*

| Degree | Number of degrees requiring solid geometry in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| A. B. | 30 | 25 | 20 | 21 | 16 | 14 | 14 | 11 | 6 | 5 |
| Per cent | 10 | 9 | 7 | 7 | 5 | 5 | 5 | 4 | 3 | 2 |
| B. S. | 37 | 32 | 26 | 22 | 18 | 16 | 12 | 11 | 11 | 10 |
| Per cent | 18 | 18 | 15 | 13 | 10 | 9 | 7 | 7 | 7 | 6 |
| Ph. B. | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 0 |
| Litt. B. | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B. L. | 3 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Total degrees | 83 | 70 | 56 | 46 | 37 | 32 | 27 | 22 | 17 | 15 |

The percentages shown are of the total number of the particular degree. For instance, in 1913, 10 per cent of the A. B. degrees required solid geometry, etc.

In 1913 all of the five degrees required solid geometry to some extent, while in 1922 only the A. B. and B. S. degrees made any requirement in it. It will be seen that, on the average, the percentage of requirements in solid geometry for the B. S. degree is approximately twice that for the A. B. This higher percentage is probably due to the fact that, although a B. S. degree may be "liberal," it inclines toward the scientific, where higher mathematics is more frequently required as a prerequisite than it is in the traditional classical A. B. course. In any case solid geometry has all but disappeared from even the B. S. requirements.

TABLE 30.—*Frequency of requirement of trigonometry for entrance to the various degrees*

| Degree | Number of degrees requiring trigonometry in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| A. B. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| B. S. | 5 | 5 | 5 | 6 | 6 | 6 | 4 | 4 | 3 | 2 |

Approximately 300 A. B. and 175 B. S. requirements are considered in this table. The other degrees make no requirements in this subject.

Table 30 shows how very infrequently trigonometery is required for entrance to college. In 1913 six degrees out of 518 required it, and in 1922 two out of 501 required it.

No college now requires arithmetic for entrance. One college was requiring it in 1913, but dropped it the next year.

## MAXIMUM AND MINIMUM CREDITS IN MATHEMATICS

The general practice of the colleges is not to state a maximum number of units that will be accepted but to list the subjects for which credit will be allowed. With but few exceptions all colleges will allow a credit of 1.5 units of algebra and 0.5 unit of solid geometry. About one-half of them state that they will accept 2 units of algebra, and about the same number 0.5 unit of trigonometry. Not over a dozen of the 314 colleges mention the recognition of arithmetic for entrance. Usually when it is mentioned, the statement is made that credit will be allowed only in case the subject is pursued after algebra, and in the third or fourth year of the secondary-school course.

## COLLEGE ENTRANCE REQUIREMENTS IN SOCIAL SCIENCE

Social science includes the various fields of history, ancient, medieval, modern, American, English (or the same under such names as Greek, Roman, etc.), civics, economics, geography, and sociology.[a]

[a] Commercial geography is included under the section on "Commercial subjects."

Table 31 shows the total social science requirement for all degrees by 308 colleges:

TABLE 31.—*Number of units of social science required for entrance to college and frequency of each requirement, all degrees being considered*

| Units | Number of degrees requiring social sciences in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | 144 | 147 | 145 | 146 | 154 | 156 | 161 | 155 | 161 | 166 |
| Per cent | 26 | 26 | 27 | 27 | 28 | 29 | 30 | 28 | 30 | 31 |
| 1 | 319 | 328 | 329 | 327 | 320 | 314 | 308 | 315 | 312 | 304 |
| Per cent | 58 | 59 | 59 | 59 | 60 | 58 | 57 | 58 | 58 | 57 |
| 1.5 | 10 | 10 | 7 | 4 | 4 | 3 | 3 | 3 | 3 | 3 |
| 2 | 80 | 70 | 67 | 64 | 57 | 62 | 61 | 61 | 56 | 51 |
| Per cent | 14 | 13 | 12 | 12 | 11 | 11 | 11 | 11 | 10 | 10 |
| 2.5 | 2 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 |
| 3 | 1 | 0 | 0 | 8 | 8 | 9 | 9 | 8 | 9 | 9 |
| Total degrees | 556 | 555 | 548 | 549 | 544 | 545 | 543 | 543 | 541 | 543 |

It will be seen that about seven-tenths of the degrees require social science for entrance and that 10 years records little change in this figure, the actual decrease being only 5 per cent. The percentages for the 1-unit basis vary but little. The 2-unit bases decrease from 14 to 10 per cent, while the 1.5 decrease from 10 cases (about 2 per cent) to 3 cases. The 1.5-unit bases, with the exception of a single degree which ran only for 1913, 1914, and 1915, and which was "unspecified," consist of a combination of 1 unit of American history with one-half unit of some other subject, usually civics. A few of these 1.5-unit bases became 2-unit standards, but most of them became 1-unit and "unspecified." Adoption of the 3-unit bases by eight degrees in 1916 looks rather unusual, but it is easily explained by the fact that two 4-degree Jesuit colleges made the adoption at this time.

In order to compare the A.B. and B.S. requirements, Table 32 is presented. It consists of the totals and percentages for the two degrees for the 0, 1, and 2 unit bases. The 1.5, 2.5, and 3 unit bases are not used because of their small number, because the 3-unit bases are identical, and because the B. S. degree has no 2.5-unit bases.

TABLE 32.—*Comparison of the entrance requirements in social science for the A. B. and B. S. degrees*

| Units | Degree | Number of degrees requiring social science in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | A. B | 79 | 81 | 78 | 83 | 86 | 85 | 87 | 84 | 87 | 90 |
| | Per cent | 26 | 26 | 26 | 27 | 28 | 28 | 28 | 28 | 28 | 30 |
| | B. S | 49 | 53 | 53 | 51 | 56 | 58 | 61 | 59 | 61 | 63 |
| | Per cent | 25 | 27 | 27 | 26 | 29 | 30 | 30 | 29 | 31 | 32 |
| 1 | A. B | 184 | 187 | 188 | 183 | 184 | 181 | 179 | 181 | 181 | 178 |
| | Per cent | 60 | 60 | 61 | 61 | 60 | 59 | 59 | 59 | 59 | 59 |
| | B. S | 112 | 117 | 117 | 120 | 116 | 115 | 112 | 116 | 113 | 109 |
| | Per cent | 58 | 59 | 59 | 61 | 59 | 59 | 58 | 59 | 58 | 57 |
| 2 | A. B | 39 | 36 | 36 | 36 | 33 | 35 | 35 | 35 | 32 | 27 |
| | Per cent | 13 | 12 | 12 | 12 | 11 | 12 | 12 | 12 | 11 | 9 |
| | B. S | 26 | 24 | 22 | 20 | 16 | 18 | 17 | 18 | 17 | 17 |
| | Per cent | 14 | 12 | 11 | 10 | 8 | 9 | 9 | 9 | 9 | 9 |

From Table 32 it is clear that the B. S. degree requires social science for entrance as often as does the A. B. degree. It is also clear that there is practically no difference in the amounts of social science required for the two degrees. Moreover, whatever changes occur, occur at about an equal rate for both degrees. It might be said that the A. B. requirements are a trifle higher than those for the B. S., but practically speaking there is no difference.

Ancient, American, and general history are required more frequently than any other branches of social science. Table 33 shows the subject totals for all degrees.[10]

TABLE 33.—*Frequency of specification of the various social-science subjects required for entrance to college, all degrees being considered together*

| Subject | Number of degrees requiring social science in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| Unspecified | 312 | 317 | 313 | 308 | 306 | 302 | 299 | 313 | 315 | 302 |
| Per cent | 57 | 57 | 57 | 56 | 56 | 55 | 55 | 57 | 58 | 57 |
| Ancient | 25 | 26 | 30 | 35 | 34 | 35 | 33 | 31 | 23 | 23 |
| Per cent | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 4 | 4 |
| Ancient and combination | 24 | 16 | 14 | 22 | 19 | 20 | 20 | 20 | 17 | 17 |
| Per cent | 4 | 3 | 2 | 4 | 4 | 4 | 4 | 4 | 3 | 3 |
| American | 20 | 20 | 17 | 11 | 11 | 11 | 10 | 10 | 9 | 9 |
| Per cent | 4 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| American and combination | 20 | 17 | 15 | 20 | 16 | 17 | 17 | 12 | 12 | 12 |
| Per cent | 4 | 3 | 3 | 4 | 3 | 3 | 3 | 2 | 2 | 2 |
| General | 12 | 12 | 12 | 12 | 12 | 11 | 10 | 10 | 10 | 10 |
| Per cent | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Totals used | 556 | 555 | 548 | 549 | 544 | 545 | 543 | 543 | 541 | 533 |

Ancient history is the branch of social science most frequently required. By itself and in combination it was required by 8 per cent of the degrees in 1913 and by 7 per cent in 1922. The branches with which it is most frequently combined are modern history and American history. In addition to being required to the extent indicated, it is "preferred" or "recommended" for 10 additional degrees (about 2.5 per cent).

The American and American-combination groups were required by 8 per cent of the degrees in 1913 and by only 4 per cent in 1922. This decrease is probably largely due to the fact that American history is now required for graduation quite commonly by the high schools of the country, and that since it will probably be offered anyway, there is no particular need in prescribing it.

[10] The percentages are not of the totals of these columns and will not total 100, since there is some overlapping in the ancient-combination and American-combination groups and because a few of the very irregular specifications such as "One unit of English history," and "Not United States history," are not included. The percentages were computed on the basis of the true totals as shown in Table 31. These totals are the "totals used" of Table 33 above. These "totals used" are not the totals of the columns of Table 33.

On the whole, there is practically no difference between the A. B. and B. S. degrees in the choice or popularity of historical branches required for entrance. The A. B. degree requires slightly more of the ancient history and slightly less of the American. In addition to the requirements, eight of the A. B. degrees prefer or recommend ancient history, while only three B. S. degrees prefer it. The figures for the Ph. B., Litt. B., and B. L. degrees show greater variability in the percentages of the various units required, but the small number of cases exaggerates any tendency all out of proportion to its importance. Ninety per cent of all of the colleges which offer two or more degrees have a single requirement in social science for all degrees or groups offered. The other 10 per cent usually specify for the A. B. degree only, the most frequent specification being ancient history.[11]

Of the 314 colleges, 75 state the maximum amount of credit allowed in social science. Of the 66 colleges offering the A. B. degree, 1 college accepts only 1 unit; 8 accept 2 units; 5 accept 2.5 units; 31 accept 3 units; 20 accept 4 units; and 1 accepts 4.5 units. Of the colleges offering the B. S. degree and stating the maximum credit allowed, 1 college accepts but 1 unit; 4 accept 2 units; 2, 2.5 units; 18, 3 units; 1, 3.5 units; 9, 4 units; and 1, 4.5 units.

The total number of subjects or combinations of subjects specified as being accepted for entrance is 21. Naturally many of these have a very low frequency, often but a single college specifying them. For instance, "English and medieval history" is specified as being accepted by 1 college; "English and United States" by 5; "Citizenship" by 1, etc. Of the 314 colleges, 195 specify the social-science branches they will accept. In order to give a general idea of the relative frequency of these specifications, Table 34 is provided:

TABLE 34.—*Frequency of mention of social-science subjects accepted for entrance by 195 colleges*

| | | | |
|---|---|---|---|
| American history | 185 | General | 25 |
| Ancient history | 174 | Modern | 14 |
| English | 170 | Economics | 54 |
| Civics | 162 | Sociology | 5 |
| Medieval-modern | 144 | | |

It must on no account be understood that these figures represent the totals for all of the colleges. They represent only the 195 colleges which specified what subjects were accepted. A considerable percentage of the colleges now allow "free election" to some extent, and of course any standard subject in social science would be accepted. It is very probable, for instance, that many more than 3 of the 195 colleges would accept sociology, or that 195, rather than

[11] This 90 per cent is approximately correct for the entire period, since there are practically no changes either to or from this identical-requirement-for-all-degrees plan, and the number of colleges remains about the same, 184 in 1913 and 181 in 1922.

185, would accept American history. The table simply shows the relative mention of the various subjects by the colleges which do mention them as acceptable for entrance. The figures are taken as of 1913, there being not over a dozen changes in the entire series since then.

## COLLEGE-ENTRANCE REQUIREMENTS IN FOREIGN LANGUAGES

The foreign languages, particularly the ancient, have been the center of many educational battles. The classical languages have been vigorously assailed and as vigorously defended. These battles have not been useless, because out of them have grown new conceptions of the educative process and new educational ideals and principles. Modern languages have been knocking for admittance to the curriculum for some years, and their entrance into recognition came when Harvard first accepted them in 1875. It is now more or less popularly supposed that these modern languages have all but crowded out their ancient brethren. It will be the purpose of this section to show the facts for the last 10 years as revealed by published entrance requirements.

Foreign language includes all languages other than English. The usual languages included are Latin, Greek, German, French, and Spanish. As will be shown later, a few others are accepted but never required. Before going into the facts concerning each individual language, it is well to get a view of the whole field of foreign language in general. Table 35 shows the number of units of foreign language required for entrance to college, and the frequency of each requirement, all degrees and all languages being considered together as totals. Of the 314 colleges, 306 are represented in this and the following tables of this section:

TABLE 35.—*Number of units of foreign language required for entrance to college and the frequency of each requirement, all degrees being considered*

| Units | Number of degrees requiring foreign language in the year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | 62 | 74 | 80 | 80 | 92 | 101 | 109 | 135 | 146 | 163 |
| Per cent | 11 | 13 | 15 | 15 | 17 | 19 | 21 | 26 | 28 | 30 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1.5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 2 | 148 | 149 | 149 | 173 | 174 | 170 | 169 | 161 | 168 | 173 |
| Per cent | 27 | 27 | 27 | 32 | 32 | 32 | 32 | 31 | 32 | 33 |
| 3 | 71 | 68 | 70 | 70 | 61 | 58 | 55 | 56 | 55 | 56 |
| Per cent | 13 | 12 | 13 | 13 | 11 | 11 | 10 | 10 | 10 | 10 |
| 4 | 125 | 125 | 109 | 97 | 94 | 97 | 94 | 92 | 85 | 71 |
| Per cent | 23 | 23 | 20 | 18 | 17 | 18 | 17 | 17 | 16 | 12 |
| 5 | 39 | 39 | 39 | 36 | 36 | 32 | 33 | 30 | 27 | 24 |
| Per cent | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 6 | 5 | 5 |
| 6 | 60 | 54 | 51 | 46 | 41 | 38 | 35 | 32 | 28 | 28 |
| Per cent | 11 | 10 | 9 | 9 | 8 | 7 | 7 | 6 | 6 | 5 |
| 7 | 41 | 42 | 36 | 32 | 31 | 30 | 27 | 16 | 11 | 9 |
| Per cent | 7 | 7 | 7 | 6 | 6 | 6 | 5 | 3 | 2 | 2 |
| 8 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 1 |
| 10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Total degrees | 552 | 547 | 541 | 541 | 536 | 533 | 529 | 529 | 526 | 517 |

Table 35 shows that foreign language is being required less and less for college entrance, and that the decrease has been considerable during the past 10 years. It will be seen that the number of degrees that require no language has nearly trebled, and that the percentage of these degrees increases from 11 in 1913 to 30 in 1922. It is interesting to note in this connection that in many colleges foreign language "eases out," instead of disappearing abruptly. A college may require a certain amount of language in, say 1915, but in 1916 announce that substitutes, usually mathematics and science, will be accepted. A year or so later both the language and possible substitution disappear from the "requirements." Another method of "easing out" a language is to cease "requiring" it but to "urgently recommend" it, often leaving the impression that it is still, virtually, a requirement. This urgent recommendation then often disappears in a year or so.

The table shows that the two-unit standard increased from 27 per cent in 1913 to 33 per cent in 1922. Of course these figures do not show all of the changes. Some of the colleges which had two-unit standards in 1913 dropped foreign language entirely, while other colleges with higher standards dropped to the two-unit, thus filling the vacancies. Over three-fourths of the colleges which in 1913 prescribed foreign language for entrance made some change in this requirement before 1922. Further, from the table it will be seen that in 1922, of the 517 degrees, three-sevenths required no foreign language, one-third required only two units, and one-third was distributed above two units. In 1913 approximately two-thirds of the total requirements were *above* two units. In 1922, two-thirds includes two units or less.

The most popular amounts required are two and four units. Four units of Latin are required more frequently than any other number. Two units is the most popular requirement in modern languages. Few of the colleges will accept one unit of foreign language unless it is in addition to a considerable amount of one or two other languages.[12] This would explain, in part, the greater popularity of the even over the odd requirement. Another explanation may be found in the fact that the average high school will offer two foreign languages of two units each more frequently than it will offer one or two of three units each. This preference for the two-unit language is due, in part, to the incompetency of the teachers to teach the

[12] Spanish is a possible exception to this statement. Many colleges in their published statements say that only one unit of Spanish will be accepted. However, there is a tendency to place this subject on a plane with the other foreign languages and to accept not less than two units.

third year,[13] and to the difficulty in administering a three-unit foreign language in a four-year high-school course. Two two-unit courses are much more easily administered and will attract more pupils than will a single three-unit course.

The table shows that the 4-unit basis decreased by one-half during the period, or from 23 to 12 per cent. A few of these 4-unit requirements were combinations of language (for instance, Latin 2 units, German 2 units), but nearly all of them were Latin. The odd standards, 3, 5, etc., also show considerable decrease. One college (Bryn Mawr) requires 10 units of foreign language, 4 units of Latin, and 6 units from Greek (3), German (3), or French (3).[14] This requirement is more than the average high school of the country could possibly meet.

Table 36 shows a comparison of the foreign-language requirements of the A. B. and B. S. degrees:

TABLE 36.—*A comparison of the A. B. and B. S. degrees in amounts of foreign language required for entrance*

| Units | Degree | Percentages of foreign language required in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | A. B. | 8 | 8 | 13 | 13 | 15 | 17 | 19 | 24 | 26 | 28 |
| | B. S. | 14 | 17 | 17 | 16 | 18 | 21 | 24 | 27 | 30 | 31 |
| 2 | A. B. | 20 | 21 | 21 | 26 | 27 | 28 | 29 | 27 | 28 | 28 |
| | B. S. | 43 | 42 | 43 | 48 | 36 | 43 | 42 | 40 | 40 | 42 |
| 4 | A. B. | 14 | 14 | 13 | 13 | 10 | 8 | 8 | 8 | 8 | 9 |
| | B. S. | 12 | 11 | 13 | 10 | 10 | 11 | 10 | 11 | 11 | 12 |
| 5 | A. B. | 23 | 25 | 21 | 19 | 18 | 18 | 18 | 18 | 18 | 17 |
| | B. S. | 21 | 21 | 18 | 18 | 18 | 19 | 19 | 18 | 15 | 11 |
| 6 | A. B. | 8 | 8 | 8 | 8 | 7 | 8 | 7 | 7 | 7 | 6 |
| | B. S. | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 1 |
| 8 | A. B. | 14 | 12 | 12 | 10 | 10 | 10 | 9 | 9 | 8 | 8 |
| | B. S. | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| 9 | A. B. | 12 | 12 | 11 | 11 | 10 | 10 | 9 | 5 | 4 | 3 |
| | B. S. | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 36 shows that the A. B. degree requires a total of considerably more foreign language for entrance than the B. S. degree does. The A. B. has a smaller percentage of "no-requirement" than the B. S., but it changed, in this standard, slightly more rapidly than the B. S., the A. B. net change being 20 per cent while that of the

[13] This remark is made considering all of the high schools of the country. In the small high schools, of which there are a majority, the teachers would be less competent to teach advanced years of subjects, because they are usually required to teach several subjects and have not specialized to any great extent in one or two subjects, than in the city schools, where a more highly trained and specialized teacher is usually employed.

[14] Beginning with 1923 this amount is lessened somewhat. Seven units are required, and a choice is allowed between two groups of subjects, one of which is foreign language.

B. S. is 17 per cent. In 1913, of the B. S. degrees, 57 per cent required two units or less, while only 28 per cent of the A. B. degrees required these amounts. In 1922 the percentages were 73 for the B. S. and 56 for the A. B.

The most popular requirement for the B. S. is two units, which was prescribed by 43 per cent of the degrees in 1913 and changed but 1 per cent to 1922. In the two-unit-or-below, the B. S. has a larger percentage than the A. B. and of course in the above-two-units grouping the A. B. has the larger percentage. However, in the three-unit basis the B. S. shows a slightly larger percentage from 1917 on. The B. S. changes little in this standard. In the four-unit bases the percentages are about equal in 1913, but the B. S. dropped this requirement more rapidly than the A. B. did, the net changes being 6 per cent for the A. B. and 10 per cent for the B. S. Above four units the percentages are considerably greater for the A. B. than for the B. S. In 1913 the percentage of A. B. degrees requiring more than four units was 34, while that of the B. S. was but 9. In 1922 the percentages were 17 and 2, respectively.

It might be argued that the number of units does not tell the whole story, that one college might require four units of one language, while another college would require four units of two different languages. Table 37 shows the number of foreign languages (not units) required for entrance to college, and shows the frequency of each requirement for all degrees combined.

TABLE 37.—*Number of foreign languages required for entrance to college and frequency of each requirement, all degrees being considered*

| Number of languages | Number of degrees requiring foreign languages in | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | 62 | 74 | 80 | 80 | 92 | 101 | 109 | 135 | 146 | 153 |
| Per cent | 11 | 13 | 15 | 15 | 17 | 19 | 21 | 26 | 28 | 30 |
| 1 | 314 | 314 | 311 | 322 | 314 | 312 | 308 | 297 | 295 | 287 |
| Per cent | 57 | 57 | 57 | 59 | 58 | 58 | 58 | 56 | 56 | 55 |
| 2 | 171 | 156 | 146 | 135 | 126 | 116 | 108 | 93 | 81 | 74 |
| Per cent | 31 | 29 | 27 | 25 | 23 | 22 | 21 | 18 | 15 | 13 |
| 3 | 5 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 |
| Total degrees | 552 | 547 | 541 | 541 | 536 | 533 | 529 | 529 | 526 | 517 |

Table 37 shows that, although there are no significant changes in the one-language and three-language requirements, the two-language requirement decreases by more than one-half, from 31 per cent in 1913 to 13 per cent in 1922. With but two or three exceptions, all two

(or three) language requirements include Latin, and, as other tables will show, this subject is the largest loser. This fact explains four-fifths of the decrease shown above. The remaining fifth (approximately) is due to the decrease in Greek. "Latin four units, Greek three units," was for a long time a favorite language prescription. The percentages of "no-requirement" in the above table are the same as those of any other foreign-language tables where all degrees are considered.

Table 38 shows a comparison of the A. B. and B. S. degrees in number of foreign languages required for admission.

TABLE 38.—*A comparison of the A. B. and B. S. degrees in number of foreign languages required for admission*

| Units | Degree | Number of degrees requiring foreign languages in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | A. B. | 29 | 26 | 31 | 37 | 48 | 50 | 57 | 68 | 75 | 87 |
| | Per cent | 9 | 9 | 10 | 12 | 15 | 17 | 18 | 23 | 25 | 29 |
| | B. S. | 24 | 39 | 41 | 34 | 36 | 40 | 42 | 54 | 58 | 57 |
| | Per cent | 13 | 20 | 22 | 18 | 20 | 22 | 24 | 330 | 32 | 33 |
| 1 | A. B. | 159 | 166 | 168 | 169 | 165 | 165 | 164 | 166 | 164 | 156 |
| | Per cent | 52 | 55 | 55 | 56 | 55 | 55 | 55 | 55 | 55 | 52 |
| | B. S. | 131 | 127 | 124 | 130 | 127 | 124 | 119 | 112 | 107 | 105 |
| | Per cent | 70 | 67 | 66 | 70 | 70 | 68 | 67 | 61 | 60 | 60 |
| 2 | A. B. | 116 | 110 | 102 | 95 | 91 | 86 | 79 | 67 | 60 | 55 |
| | Per cent | 38 | 36 | 34 | 32 | 30 | 28 | 26 | 22 | 20 | 19 |
| | B. S. | 31 | 23 | 20 | 19 | 17 | 16 | 15 | 15 | 14 | 11 |
| | Per cent | 16 | 12 | 12 | 10 | 9 | 9 | 8 | 8 | 9 | 6 |
| 3 | A. B. | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 |
| | B. S. | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Total degrees | | 552 | 547 | 41 | 541 | 536 | 533 | 529 | 529 | 526 | 517 |

Here again it is evident that the B. S. requires a total of considerably less foreign language than the A. B. In the first place, as was noted before, the B. S. has a larger percentage of "no requirement"; in the second place it shows a greater number of one-language requirements, and in the third place it shows less than half as many two and three language requirements as the A. B. For 1913, of the A. B. requirements in foreign language, 61 per cent were for one or none, while the percentage for the B. S. was 83. In 1922 the percentages were 81 for the A. B. and 93 for the B. S.

Table 39 shows the frequency of requirement of each foreign language prescribed, all degrees being considered at once.

TABLE 39.—*Frequency of requirement of each foreign language prescribed for entrance to college, all degrees being considered together*[1]

| Language | Number of degrees requiring foreign languages in | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| Unspecified | 345 | 349 | 346 | 341 | 335 | 329 | 313 | 310 | 312 | 299 |
| Per cent | 62 | 63 | 64 | 63 | 63 | 62 | 59 | 59 | 59 | 58 |
| Latin | 234 | 214 | 202 | 189 | 179 | 167 | 163 | 145 | 131 | 122 |
| Per cent | 42 | 39 | 37 | 35 | 33 | 31 | 30 | 27 | 25 | 23 |
| Greek | 52 | 48 | 49 | 40 | 36 | 32 | 29 | 21 | 14 | 12 |
| Per cent | 9 | 9 | 9 | 7 | 7 | 6 | 5 | 4 | 3 | 2 |
| German | 15 | 15 | 14 | 14 | 14 | 12 | 12 | 11 | 10 | 8 |
| Per cent | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 |
| French | 7 | 7 | 8 | 6 | 7 | 7 | 6 | 6 | 3 | 3 |
| Per cent | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.5 | 0.5 |
| Total degrees | 552 | 547 | 541 | 541 | 536 | 533 | 529 | 529 | 526 | 517 |

[1] The percentages of these columns will not total 100 because a degree often requires more than one language for entrance. The table shows that in 1913 62 per cent of the total degrees required unspecified foreign language for entrance; 42 per cent required Latin, etc.

The "unspecified" classification means that foreign language was required, but no particular subject was specified or prescribed. It will be seen that about three-fifths of the degrees do not specify what language shall be presented. Latin decreases from 42 to 23 per cent. This does not represent the entire decrease in Latin, but only the "Latin or no Latin" changes. A great many additional colleges have changed Latin from a four-unit to a two-unit basis. Such a change would not be shown in Table 39. It is shown in Table 42. Consequently, it must not be understood that Latin decreased only 19 per cent, but that 19 per cent of the degrees dropped it entirely as a requirement for admission during the period.

Greek was more frequently required for the A. B. than for any other degree, while German and French were required more frequently for the B. S. It will be seen that the Greek requirement decreased from 52 degrees in 1913 to 12 degrees in 1922. Nearly all of these requirements were by Catholic colleges, "Latin four units, Greek three units" being a popular prescription with them. As with Latin, the decrease represents only absolute abolishment and does not show the decrease in amounts of Greek required.

Table 40 shows the number of units of "unspecified" foreign language required for entrance and the frequency of the various bases for all degrees.

TABLE 40.—*Number of units of unspecified foreign language required for entrance to college and frequency of each requirement, all degrees being considered together*

| Units | Number of degrees requiring foreign languages in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | 197 | 198 | 195 | 190 | 201 | 204 | 216 | 219 | 210 | 219 |
| Per cent | 36 | 36 | 36 | 35 | 37 | 38 | 41 | 41 | 40 | 42 |
| 1 | 13 | 13 | 12 | 10 | 7 | 6 | 5 | 5 | 4 | 2 |
| Per cent | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Per cent | 211 | 207 | 212 | 221 | 215 | 212 | 204 | 192 | 200 | 196 |
| 3 | 38 | 38 | 39 | 41 | 40 | 40 | 38 | 36 | 38 | 38 |
| Per cent | 77 | 74 | 70 | 70 | 65 | 61 | 59 | 60 | 61 | 55 |
| 4 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 |
| Per cent | 41 | 43 | 39 | 37 | 35 | 38 | 37 | 41 | 38 | 34 |
| 5 | 8 | 8 | 7 | 7 | 7 | 7 | 7 | 8 | 7 | 6 |
| Per cent | 5 | 6 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 |
| 6 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 |
| Per cent | 6 | 4 | 3 | 3 | 3 | 2 | 1 | 2 | 2 | 2 |
| Total degrees | 1 | 1 | 1 | 1 | 1 | | | | | |
| | 542 | 547 | 541 | 541 | 536 | 533 | 529 | 529 | 526 | 517 |

Table 40 shows that there has been little change in amounts of "unspecified" language required for entrance. There have been several changes, but no general trend or tendency of importance is shown.[a] Table 41 shows the percentages of the total number of A. B. and B. S. degrees requiring the various amounts of unspecified foreign language:

TABLE 41.—*A comparison of the A. B. and B. S. degrees in the number of units of unspecified foreign language required for entrance*

| Units | Degree | Percentages of foreign language required in | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | A. B. | 42 | 43 | 42 | 41 | 43 | 41 | 47 | 46 | 45 | 47 |
| | B. S. | 24 | 26 | 26 | 24 | 27 | 27 | 30 | 34 | 34 | 35 |
| 1 | A. B. | 32 | 33 | 36 | 38 | 38 | 39 | 37 | 36 | 37 | 36 |
| | B. S. | 48 | 45 | 44 | 47 | 45 | 44 | 41 | 38 | 38 | 41 |
| 2 | A. B. | 15 | 14 | 13 | 13 | 11 | 10 | 9 | 10 | 10 | 9 |
| | B. S. | 12 | 12 | 12 | 11 | 10 | 11 | 12 | 11 | 11 | 11 |
| 3 | A. B. | 4 | 4 | 3 | 3 | 3 | 4 | 3 | 4 | 4 | 5 |
| | B. S. | 12 | 13 | 13 | 14 | 13 | 14 | 14 | 15 | 13 | 12 |

It will be seen that 42 per cent of the A. B. degrees required no units of unspecified foreign language in 1913, which means (in comparison) that the A. B. specified its foreign language requirements more frequently than did the B. S., which had a percentage of 24 at the same time. The same thing is seen in the unit specifications. For instance, in the two-unit requirement the A. B. shows a percentage (for 1913) of 32, while the B. S. has a percentage of 48. In

other words, while 48 per cent of the B. S. degrees require two units of unspecified foreign language for entrance, only 32 per cent of the A. B. degrees make the same requirement; that is, in the B. S. group there is a greater freedom of choice as to what may be presented. The B. S. standard of two units decreases from 48 to 41 per cent, and all, or nearly all, of this change is due to dropping foreign language entirely. In but very few instances has unspecified ever changed to specified foreign language.

Table 42 shows the requirements in Latin for all degrees:

TABLE 42.—*Number of units of Latin required for entrance to college and frequency of each requirement, all degrees being considered*

| Units | Number of degrees requiring Latin for entrance in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| | 318 | 333 | 339 | 350 | 359 | 366 | 366 | 384 | 395 | 395 |
| Per cent | 58 | 61 | 63 | 65 | 67 | 69 | 69 | 73 | 75 | 76 |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 41 | 34 | 33 | 33 | 32 | 31 | 32 | 29 | 28 | 25 |
| Per cent | 8 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| 3 | 44 | 45 | 43 | 43 | 38 | 37 | 35 | 34 | 33 | 31 |
| Per cent | 8 | 8 | 8 | 8 | 7 | 7 | 7 | 6 | 6 | 6 |
| 4 | 148 | 135 | 126 | 115 | 107 | 99 | 96 | 84 | 70 | 66 |
| Per cent | 27 | 25 | 23 | 21 | 20 | 19 | 18 | 16 | 13 | 13 |
| Total degrees | 552 | 547 | 541 | 541 | 536 | 533 | 529 | 529 | 526 | 517 |

Table 42 shows, as did Table 39, that Latin was dropped outright as a requirement by 19 per cent of the degrees (or colleges) during the period 1913–1922. Table 42 shows also the decrease in the various amounts required. It will be seen that the two and three unit requirements decrease slightly, but that the greatest change occurs in the four-unit group. In 1913 27 per cent of the degrees required four units of Latin for entrance, but in 1922 only 13 per cent required this amount.

The B. S. degree requires Latin for entrance only rarely, 5 per cent of the B. S. degrees requiring it in 1922. Nearly all of the B. S. degrees which do require it are offered by colleges which also offer the A. B. degree and have identical requirements for both (or all) degrees. Since the requirements were made originally for the A. B., it might be said that quite probably Latin is required for entrance to the B. S. degree only by chance, the association of the B. S. with the A. B. degree being largely responsible for the requirement. The majority of colleges offering the two degrees and requiring Latin for the A. B. require "foreign language" for the B. S.

Since the A. B. degree is the stronghold of Latin, it would be expected that a smaller percentage of degrees would require Latin, if all degrees were considered together. This is true, but not to any

great extent, since more than one-half of the total degrees are A. B. In 1913 58 per cent of all degrees did not require Latin. At the same time the percentage of A. B. degrees requiring no Latin was 43. In 1922 the percentages were 76 for all degrees and 64 for the A. B. The net change was approximately the same, 22 per cent for all degrees and 21 per cent for the A. B. degrees.

Table 43 shows the requirements in Greek for all degrees:

TABLE 43.—*Number of units of Greek required for entrance to college and frequency of each requirement, all degrees being considered*

| Units | Number of degrees requiring Greek for entrance in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | 501 | 499 | 492 | 501 | 500 | 501 | 500 | 508 | 512 | 505 |
| Per cent | 91 | 91 | 91 | 93 | 93 | 94 | 95 | 96 | 97 | 98 |
| 2 | 26 | 24 | 23 | 17 | 16 | 14 | 14 | 11 | 7 | 6 |
| Per cent | 5 | 5 | 4 | 3 | 3 | 3 | 3 | 2 | 1 | 1 |
| 3 | 25 | 24 | 26 | 23 | 20 | 18 | 15 | 10 | 7 | 6 |
| Per cent | 5 | 5 | 5 | 4 | 4 | 3 | 3 | 2 | 1 | 1 |
| Total degrees | 552 | 547 | 541 | 541 | 536 | 533 | 529 | 529 | 526 | 517 |

Greek has all but disappeared from college entrance requirements, only 12 out of the 517 degrees requiring it in 1922. Four units of Greek were not required by any college during the period under consideration. Occasionally a college would require "Latin or Greek, four units," at a certain time, but within a year or two this would be changed to read "Latin four units (or Greek three)." Moreover, very few colleges would accept (according to published statements of amounts of Greek accepted) four units of Greek. The reason for this is clear. It has long been considered bad pedagogy to begin the study of two foreign languages at the same time, and since Latin was more of a "staple" than Greek it would be given the preference, and the pupil would begin it in his first year at the preparatory school. Pursued throughout the four-year course it would net him four units. By beginning Greek the second year he could obtain three units' credit in it.

The table shows that in 1913 about the same number of degrees required the two-unit as required the three-unit basis, and that these frequencies remained about equal to each other during the period. However, as with the table on Latin, this does not indicate all of the changes that have taken place. Few of the colleges requiring three units of Greek dropped it abruptly. As with Latin, it was "eased out," from a three to a two unit requirement, and then "recommended" before finally being dropped. The A. B. degree was the only one to make any real requirement in Greek.

Table 44 shows the requirements in German for all degrees:

TABLE 44.—*Number of units of German required for entrance to college and frequency of each requirement, all degrees being considered*

| Units | Number of degrees requiring German in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | 537 | 532 | 527 | 528 | 522 | 521 | 517 | 518 | 516 | 509 |
| Per cent | 97 | 97 | 97 | 97 | 97 | 98 | 98 | 98 | 98 | 99 |
| 1 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 2 |
| 2 | 13 | 13 | 12 | 10 | 8 | 8 | 8 | 7 | 8 | 5 |
| 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 |
| Total degrees | 552 | 547 | 541 | 541 | 536 | 533 | 529 | 529 | 526 | 517 |

The entrance requirements in French are shown in Table 45:

TABLE 45.—*Number of units of French required for entrance to college and frequency of each requirement, all degrees being considered*

| Units | Number of degrees requiring French in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | 545 | 540 | 534 | 535 | 529 | 526 | 523 | 523 | 523 | 514 |
| 2 | 6 | 6 | 6 | 4 | 5 | 5 | 4 | 4 | 2 | 2 |
| 3 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 |
| Total degrees | 552 | 547 | 541 | 541 | 536 | 533 | 529 | 529 | 526 | 517 |

Tables 44 and 45 show how infrequently (and increasingly so) German and French are required for entrance to college.

Of the 181 colleges which in 1922 offered more than one degree, 39 had a single requirement for all degrees offered. With but one or two exceptions this requirement was merely "foreign language."

## THE MINIMUM AND MAXIMUM AMOUNTS OF FOREIGN LANGUAGE ACCEPTED

About one-half of the colleges in 1913 stated the amounts of the various foreign languages accepted as "1 to 3 units." The other half used other amounts, such as 1 or 2, 3, 2 to 4, 1 to 4, etc. Since 1913 there has been a decided movement ordinarily to accept no single unit of any language, and the statements of amounts are more and more reflecting this. Instead of accepting "1 to 3 units" of a language the tendency now is to accept "2 or 3" or "2 to 4" units.

The maximum has been advanced along with the minimum, so that now almost any college will accept four units of a language, with the possible exceptions of Greek and Spanish. It is interesting

to note that as Spanish appeared, it was usually accepted not to exceed two units. In 1922, of the colleges stating maximums in Spanish 43 per cent stated two units. In general, however, the maximum for this subject is being gradually raised to three and four units.

Of the colleges which state the subjects and amounts accepted, 92 in 1913 credited Spanish. In 1922 this number had been increased to 170. In addition to this, 4 other colleges stated that "other languages" (after specifying Latin, Greek, German, and French) would be accepted. Italian increased (in mention) from 6 in 1913 to 20 in 1922, and Scandinavian increased from 5 to 10. Polish, Hebrew, Portuguese, and Slovak were definitely mentioned by one college each.

## COLLEGE ENTRANCE REQUIREMENTS IN SCIENCE

The three major branches of science with which the high school is most concerned are physics, chemistry, and biology (or zoology and botany). In addition to these, astronomy, geology, physiology, physical geography, and general science are found in the high-school curriculum. The present section of this chapter will show the amount and kinds of natural science required for entrance to college.

TABLE 46.—*Number of units of science required for entrance to college and frequency of each requirement, all degrees being considered*

| Units | Number of degrees requiring science in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | 267 | 260 | 263 | 265 | 260 | 260 | 265 | 273 | 272 | 284 |
| Per cent | 48 | 48 | 49 | 49 | 49 | 49 | 50 | 51 | 51 | 54 |
| 0.5 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 1 | 228 | 231 | 229 | 225 | 228 | 220 | 215 | 211 | 216 | 201 |
| Per cent | 41 | 42 | 42 | 41 | 42 | 41 | 40 | 40 | 41 | 39 |
| 1.5 | 6 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 39 | 37 | 35 | 36 | 34 | 41 | 38 | 35 | 28 | 29 |
| Per cent | 7 | 7 | 7 | 7 | 6 | 8 | 7 | 7 | 5 | 6 |
| 2.5 | 7 | 6 | 5 | 4 | 4 | 4 | 4 | 3 | 3 | 1 |
| 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 2 |
| 3.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Total degrees | 551 | 544 | 538 | 538 | 535 | 534 | 531 | 531 | 528 | 521 |

Table 46 shows that approximately one-half of the colleges require science for entrance. It also shows a slight increase (6 per cent) in the number of degrees requiring no science for the period 1913–1922. There have been few changes in the science requirements during the period under study.

Table 47 shows a comparison of the A. B. and B. S. degrees in amounts of science required for entrance:

TABLE 47.—*A comparison of the A. B. and B. S. degrees in amounts of science required for entrance*

| Units | Degree | Percentages of science required in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | A. B. | 54 | 54 | 54 | 55 | 55 | 55 | 57 | 58 | 58 | 61 |
| | B. S. | 36 | 36 | 38 | 38 | 37 | 37 | 38 | 39 | 40 | 44 |
| 1 | A. B. | 40 | 40 | 42 | 41 | 41 | 40 | 38 | 37 | 38 | 35 |
| | B. S. | 45 | 45 | 45 | 45 | 47 | 45 | 45 | 44 | 46 | 43 |
| 2 | A. B. | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 3 |
| | B. S. | 13 | 12 | 12 | 12 | 12 | 14 | 13 | 13 | 10 | 10 |

Table 47 shows, what would probably be expected, that the B. S. degree requires more science than the A. B. does. The B. S. requires, according to the table, less of "no science" and more of the one and two unit requirements. It will be seen that the B. S. requires considerably more of the two-unit standard than the A. B. requires. Neither degree changes much during the period, and the net changes are about the same in each case.

Only 18 of the colleges state definitely the branch of science they require. In 16 of the 18 instances physics is required; 12 additional state that physics is "recommended"; while 24 others state that the requirement shall be met by either physics or chemistry. In 1913 there were a few scattered requirements (usually half-units) in physical geography, physiology, botany, and zoology, but by 1922 all of these had disappeared.

## MINIMUM AND MAXIMUM AMOUNTS OF CREDIT ALLOWED IN SCIENCE

Physics, chemistry, and biology are one-unit subjects. Zoology, botany, physiology, geology, astronomy, and physical geography are one-half unit subjects. A slight variation from this practice is seen in a very few instances, where the college will accept chemistry or physics without laboratory work for one-half unit credit, or credit it for a full unit where laboratory work has been a part of the course.

Of the 273 colleges which specify what subjects in science will be accepted, 12 in 1913 mentioned general science. By 1922, 61 additional colleges had added it to their lists of acceptable subjects.[18] Astronomy and geology are rarely mentioned.

[18] Attention is again called to the fact that these figures do not represent the number of colleges which would allow credit for general science. This number of colleges definitely stated that this subject would be accepted. Instead of 73, it is possible that some 200 of the 273 colleges would accept it.

## THE NEWER SUBJECTS ACCEPTED FOR COLLEGE ENTRANCE

It is platitudinous to state that school curricula have greatly expanded during the past few years. Many new subjects have been added, not only to the curriculum but also to the list of subjects acceptable for college entrance purposes. What influences have brought about these changes? What are these newer subjects? To what extent have they been approved by American colleges? These are the questions to be considered in the following pages.

### INFLUENCES RESPONSIBLE FOR THE APPEARANCE OF THE NEWER SUBJECTS

The influences which cause changes in curricula, in so far as they are additions of "modern" subjects, often come from outside the school. Ultimately, such changes are brought about by the influence of the "times" in which we live. New inventions, discoveries, and theories are reflected in our lives, homes, and professions; and somewhat later and more indirectly in our theory and practice of public educational affairs. The influence of the times is not on the school directly but on committees, conferences, conventions, etc., which are responsible, to some extent, for our conceptions of education. Consequently, the influences to be discussed here are direct, those of educational bodies.

The movement for new subjects may be said to have started when arithmetic first pushed its way into entrance requirements, thus displacing its weight's worth of Latin or Greek, or both. Of course all subjects at the time of first appearance are "new." It was probably as unthinkable in 1800 to suggest a place for French or German, as it would be now to suggest a place for aviation or radio. It is also quite probable that the subjects we now consider old and well-established were the butt of joke and ridicule then, even as some of our so-called "buttonholing" and "white-collar and blue-overall" courses are now.

Nor must it be thought that the subjects we consider new are always just making their first appearance. Henderson is authority for the statement, for instance, that bookkeeping and drawing were to be found 40 years ago, but by 1890 had dropped out of sight, only to reappear later as "vocational" subjects. On the other hand, he states that previous to 1900 only one out of the nine largest State universities was accrediting manual training, and that not a single one was allowing credit for agriculture or domestic science.[16]

[16] Nineteenth Proc. Assoc. Col. and Sec. Schs. of the Southern States, p. 43.

That the old subjects were beginning to resent the intrusion of the new before 1900 may be seen from the following quotation from the minutes of the Ohio College Association, 1897:

> The association next discussed the following question:
>
> *Resolved*, That in every secondary school and in college, as far as to the end of the sophomore year, the study of language and mathematics should be predominately and continuously pursued; that the study of English, including grammar, rhetoric, and composition, should continue throughout every course; that two languages besides English should be studied; and that no other studies should be allowed to interfere with the preeminence of the studies here designated.
>
> After the discussion the association adopted the following resolution:
>
> *Resolved*, That the resolution as printed on the program is not in accordance with present educational ideas." [17]

The following year (1898) President Eliot—always a far-seeing educator—anticipated "unrestricted election" in entrance requirements by several years. In January of that year he reported to the board of overseers as follows:

> The ultimate principle on which Harvard College tends to act in the matter of admission requirements is this: The college inclines to count for admission any subject which is taught in the secondary school long enough and well enough to make the study of it a substantial part of a training appropriate to the child's capacity and degree of maturity. The future attitude of the college is likely to be, not continued insistence upon certain school studies as essential to preparation for college, but insistence that the gate to a university education shall not be closed on the candidate in consequence of his omission, at school, of any particular studies, provided that his school course has been so composed as to afford him a sound training of some sort. In a democratic nation spread over a continent, and in which secondary education presents great local diversities, colleges and universities, if they would retain a national character and influence, must be careful not to offer unnecessary obstacles to the admission of young men of adequate though diversified training.[18]

In 1899 the Southern Education Association appointed a committee to examine "into the pedagogical value of manual training," but little came of it immediately.

A very important step toward recognition of the newer subjects was made in 1902 when the North Central Association voted to prepare definitions of at least one unit's value each in shopwork, drawing, commercial work, and physical culture. The preliminary report of the committee on shop and drawing was presented in 1907. The following year we find these subjects added by the commission on accredited schools of the same association:

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[17] Minutes of Ohio Col. Assoc., 1897, p. 91.

[18] Quoted from Third Proc. N. Cen. Assoc. of Col. and Sec. Schs., p. 83.

Business arithmetic.
Elementary bookkeeping.
Advanced bookkeeping and business usage.
Business law.
Stenography and typewriting.
Elementary economics.
Economic history of the United States.
Economic history of England.
Business spelling and correspondence.
History of commerce.
Materials of commerce.
Commercial geography.

In May, 1910, appeared the famous proclamation of the High School Teachers' Association of New York City. It was as follows:

We believe that the interest of the 40,000 boys and girls who annually attend the 19 high schools of this city can not be wisely met and fully served under present college-entrance requirements. Our experience seems to prove a wide discrepancy between preparation for life and preparation for college as defined by college-entrance requirements.

The attempt to prepare the student for college under the present requirement, and at the same time to teach him such other subjects as are needed for life, is unsatisfactory. Under these conditions the student often has too much to do. The quality of all his work is likely to suffer. The additional subjects are slighted because they do not count for admission to college. In such a course it is impossible for the student to give these subjects as much time and energy as social conditions demand.[19]

This association asked the colleges to consider the advisability of accepting all graduates of four-year high-school courses. In case this seemed too radical it recommended:

1. A reduction in the number of so-called "required subjects."
2. The recognition of all standard subjects as electives.

The association then listed 22 of the newer subjects for which recognition was sought.

Two months later, at the Boston meeting of the National Education Association, the section on secondary education adopted resolutions similar to those mentioned above and closed with this significant statement:

*Resolved*, That it is the sense of this department that, until such modification is made by the colleges, the high-school teachers will be greatly hampered in their attempts to serve the best interests of boys and girls in the public high schools.[20]

In November of the same year the Boston Headmasters Association adopted a similar set of resolutions and recommendations, and included a list of the newer subjects which the colleges were asked to approve.

It will be seen that most of this was happening in the East. In the Middle Western States the cry at this time was not for recognition but for adequately trained teachers for these subjects. The following recommendations of the board of inspectors to the commission

[19] High Sch. Teachers' Assoc., New York City, Bul. 1909–10, p. 19ff.
[20] Proc. N. Educ. Assoc., 1910, p. 443.

on accredited schools and colleges of the North Central Association (1910) is typical of a number of resolutions and recommendations by other bodies complaining about the lack of well-trained teachers in these newer subjects:

Whereas the introduction into secondary schools of subjects not strictly academic meets with popular favor and is proceeding rapidly, and

Whereas the demand for instructors for such subjects far outruns the supply of college graduates having the needful preparation, and

Whereas this board of inspection views with alarm the employment of a large and increasing number of instructors who lack the culture and scholarship represented by a college degree:

*Be it resolved:* First, that this board urges upon the commission the advisability of concerted action in the training of teachers of music, drawing, fine arts, domestic science, bookkeeping, typewriting, stenography, manual training, and agriculture.

Second, that in the opinion of this board college credit should be given for the above and allied subjects to the end that all secondary instructors may attain to the standard represented by college degrees.

Third, that prompt action on the part of college authorities is needed to check a lamentable, but inevitable, and under present circumstances a praiseworthy departure from the well-established custom of selecting college graduates for positions in secondary schools.[21]

The next year (1911) the committee of nine of the National Education Association hastened the more complete recognition of the newer subjects by the following statement of values:

SOME PRELIMINARY CONSIDERATIONS OF THE FIELD AND FUNCTION OF EDUCATION IN THE HIGH SCHOOL

Mechanic arts, agriculture, and household science should be recognized as rational elements in the education of all boys and girls and especially of those who have not as yet chosen their vocation. Under the authority of the traditional conception of the best preparation for a higher institution, many of our public high schools are to-day responsible for leading tens of thousands of boys and girls away from the pursuits for which they are adapted, and in which they are needed, to other pursuits for which they are not adapted and in which they are not needed. By means of exclusively bookish curricula, false ideals of culture are developed. A great chasm is created between the producers of wealth and the distributors and consumers thereof.

The high school should, in a real sense, reflect the major industries of the community which supports it. The high school, as the local educational institution, should reveal to boys and girls the higher responsibilities for more efficient service along the lines in which their own community is industrially organized.

Our traditional ideals of preparation for higher institutions are particularly incongruous with the actual needs and future responsibilities of girls. It would seem that such high-school work as is carefully designed to develop capacity for and interest in the proper management and conduct of a home should be regarded as of importance at least equal to that of any other work. We do

[21] Proc. N. Cen. Assoc. of Col. and Sec. Schs., 1910.

not understand how society can properly continue to sanction for girls high-school curricula that disregard this fundamental need, even though such curricula are planned in response to the demand made by some of the colleges for women.[22]

At the meeting of the Southern Association of Colleges and Secondary Schools in 1913 the general theme was "The Status of Vocational Subjects," and the published proceedings state "these papers revealed a surprising growth of vocational education in our schools." This same development is shown, somewhat more specifically, by the following quotation from the annual report of the College Entrance Examination Board for the same year:

> The board has recently received suggestions that examinations be established in arithmetic, biology, and mechanical drawing. * * * An inspection of the catalogues published by colleges and scientific schools participating in the board's work shows that one or more colleges offer to give to candidates for admission credit in the following subjects, which have not as yet been introduced into the board's schedule: Arithmetic, biology, mechanic arts, Italian, physiology, shopwork, commercial and industrial geography, government, astronomy, geology, agriculture, economics, business law, industrial history, and household arts.[23]

In 1915 the board appointed a commission to define requirements in mechanical drawing, and the first examination in this subject was set in June, 1916.

This somewhat disconnected account of a few of the major influences making for the acceptance of the newer subjects toward college entrance makes no claim to completeness. Each quotation or illustration cited could be multiplied several times. The reports, minutes, proceedings, and other publications of examining and accrediting bodies are full of discussions, resolutions, and recommendations concerning these subjects. However, enough of these resolutions and recommendations have been presented to orientate the newer subjects in time, and to show the main arguments advanced in favor of their recognition.

The arguments against these subjects were summarized and classified from the returns to a questionnaire sent to Ohio College Association in 1917, as follows:

1. They are not standardized as to subject matter and method.
2. They are too specialized and utilitarian.
3. They do not give mental discipline.
4. They do not articulate well with the long-established college curriculum.

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[22] Proc. N. Educ. Assoc., 1911, p. 561.
[23] Thirteenth annual report of the secretary, 1913, pp. 5, 6.

Reisner sums up the present attitude toward these subjects as follows:

> There is, on the other hand, a very genuine conviction among many American educators, particularly those connected with institutions of higher education and more specially those concerned with college admissions, that any considerable amount of vocational work or of the less exacting high-school studies, constitutes a dangerous lowering of the college entrance standard, and does not represent adequate preparation for the work of even a higher technological or professional institution.[24]

The relative value of the various school subjects is an old and much mooted question, and it is not within the limits of this study to try to settle it. The above quotations show that there have been strong influences against as well as for the introduction of these newer subjects into lists of approved entrance subjects. What these newer subjects are, and the extent to which they have been approved, will be the topics of the following section.

## PURPOSES OF THE NEWER SUBJECTS AND EXTENT TO WHICH THEY HAVE BEEN APPROVED

Before the appearance and development of certificating and accrediting bodies, and before some freedom of election in entrance subjects became common, it was necessary for the college to specify what subjects were required and to outline these to such an extent that the prospective applicant would know upon what subjects and parts of subjects to prepare. Later, when a choice of subjects was allowed the applicant, it was still necessary to outline the optional courses which might be presented. This was necessary for uniformity, for retaining as high standards in elective as in required subjects, and for assuring proper preparation for college work to which these courses might lead. As a result, nearly all colleges outlined very minutely just what the various courses were to contain; most of them suggested textbooks; and many of them made suggestions as to time, method, preparation of teacher, etc. In some of the earlier catalogues one can find many pages devoted to this material.

However, within the past 15 years a decided change has taken place. The colleges are less and less specifying and outlining courses acceptable as satisfying entrance requirements. Many colleges have dropped all outlines and descriptions, and practically all of them have either dropped or abridged them. There are four main causes of this movement.

The first of these causes is the influence of committees, round tables, conferences, etc., in the various subjects. These conferences tend, by utilizing the best opinions of those working in a particular

[24] Reisner, Nationalism and Education since 1789, p. 541.

field, and by using the best material available, to produce a more or less "authentic" or "standard" course. Although not all schools would ever adopt this course, many schools would adopt it entirely, and many more would be influenced by it.

In the second place, with the development of accrediting, certificating, and examining bodies, these outlines and descriptions have become less necessary. State boards of education have, in many instances, adopted and published courses of study, and to a considerable extent have outlined and described these courses, suggested textbooks, etc. Most cities of any size have done the same thing. The influence of the College Entrance Examination Board in this connection has been far-reaching. Many of the colleges now merely state, after specifying what subjects are required and accepted, "the substance of these courses is that specified by the College Entrance Examination Board," and give the number and price of the proper pamphlet describing the courses, together with the address of the board.

The third cause of the curtailment of outlines and descriptions of entrance subjects in college catalogues is found in the large number of subjects now accepted. If the average college were to publish outlines and descriptions of the courses it accepts, many pages would be required. The cost of printing, and the necessity of frequent change, particularly in the case of newer subjects, would make the expense heavy.

The last, and perhaps the most important cause for dropping descriptions, is found in the development of "unrestricted election." There is a strong tendency on the part of the colleges to prescribe less, to allow more freedom of choice from a larger list of "electives," and to permit the applicant to offer a few units of any subjects which are accepted toward graduation by his school. Consequently, it would be anomalous for the college to outline and describe acceptable subjects, when to an extent "anything" approved and taught by good secondary schools might be accepted.

The disappearance of descriptions does not mean that in a college freshman class all members would have had exactly the same work (in the same courses) in the high school. The subject in which it is likely they would have had most nearly the same work would be algebra. But even here it is probably true that such a universally recognized and accepted amount as "to quadratics" would really mean variation in time and amount of work accomplished. With such a subject as English composition there can be little uniformity. Foreign language preparations would not be equal in translation done, vocabulary learned, or conversation carried on. However, although each subject would show variations, there is a growing concentration around certain topics, and these topics ultimately

come to represent more or less the courses as offered. Consequently, "Caesar" comes to mean a certain number (and list) of books or parts of Caesar; plane geometry comes to represent five "books" of geometry; and English, the reading and study of a more or less commonly accepted list of works from which may be selected for the class a list of more or less commonly accepted length, etc.

Colleges are not to any great extent dropping the names of the subjects or courses they will accept. Even with no subjects prescribed at all, a college could well afford to mention (thus emphasizing) the courses which it considers most important. Since practically all colleges require some courses and allow some freedom of election, it is necessary to specify the courses from which electives may be chosen.

Of the 314 colleges used in this study, 273 specify what subjects will be accepted. The specification of these 273 colleges does not represent accurately just what subjects will be accepted, because of "free margin" and its implication to accept any standard subject. However, by considering all these colleges and tabulating the subjects definitely named, a view of the relative importance, as shown by the number of colleges mentioning each one, may be had.

Table 48 shows the newer subjects which are most frequently mentioned as being acceptable, and the development in importance, as shown by the number of colleges specifying them, for the period 1913–1922.

TABLE 48.—*Development and importance of the newer subjects accepted for college entrance purposes, as shown by the number of colleges accepting each*[1]

| Subject | Number of colleges accepting in the year | | | | | | | | | | Gain in number of colleges accepting |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | |
| Drawing | 98 | 110 | 121 | 138 | 149 | 156 | 163 | 178 | 191 | 210 | 112 |
| Shopwork | 75 | 87 | 103 | 114 | 130 | 136 | 141 | 156 | 163 | 165 | 90 |
| Household arts | 70 | 83 | 96 | 106 | 126 | 130 | 135 | 143 | 160 | 181 | 111 |
| Agriculture | 54 | 65 | 75 | 94 | 109 | 114 | 120 | 134 | 140 | 148 | 94 |
| Bookkeeping | 38 | 44 | 48 | 60 | 63 | 66 | 70 | 80 | 84 | 89 | 51 |
| Music | 36 | 39 | 48 | 49 | 54 | 56 | 64 | 76 | 78 | 82 | 46 |
| Commercial geography | 35 | 39 | 42 | 51 | 55 | 57 | 60 | 69 | 71 | 76 | 41 |
| Stenography and typewriting | 30 | 37 | 40 | 47 | 54 | 58 | 65 | 78 | 82 | 89 | 59 |
| Commercial law | 27 | 32 | 34 | 45 | 46 | 47 | 48 | 56 | 58 | 65 | 38 |
| Normal training | 26 | 30 | 33 | 34 | 35 | 36 | 46 | 48 | 49 | 52 | 26 |
| Psychology | 21 | 22 | 22 | 23 | 24 | 24 | 24 | 26 | 28 | 31 | 10 |
| Bible | 15 | 18 | 19 | 24 | 29 | 30 | 34 | 41 | 47 | 52 | 37 |
| Commercial knowledge | 15 | 17 | 24 | 29 | 35 | 38 | 40 | 45 | 46 | 49 | 34 |
| Public speaking | 5 | 6 | 7 | 7 | 7 | 8 | 10 | 11 | 13 | 18 | 13 |
| Commercial skills | 4 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 10 | 6 |
| Total colleges | 273 | 273 | 272 | 274 | 272 | 274 | 273 | 273 | 273 | 273 | |

[1] These figures represent the number of colleges which approved the subject in any amount. The table does not show amounts or increases in amounts.

Shopwork includes the work usually known as "manual training." Commercial knowledges includes such subjects as history of commerce, business organization, etc. Commercial skills includes miscellaneous subjects (mentioned but few times), such as business correspondence, accounting, office practice, etc

It will be seen from Table 48 that, of all the newer subjects, drawing shows the greatest gain. Most of this drawing is either mechanical or free-hand, and much of the gain can be attributed to the increased popularity of the shop subjects. Branches of drawing are usually accredited at from one-half to one unit, there being no generally accepted practice. It takes time to settle conventional unit values.

Shopwork includes forge, foundry, bench work, wood and metal working, etc. While this subject did not gain as much as drawing, it nevertheless doubled in mention during the period. Colleges credit it all the way from one-half to four and a half units. Two units are about the average credit allowed.

Household arts shows a gain of 111 colleges and nearly trebles in times mentioned. Cooking, sewing, millinery, and shelter are included. The average amount recommended for credit is about two units.

Agriculture also nearly trebles during the period. The report of the Carnegie Foundation in 1922 contained this sentence (p. 104): "Agriculture as a secondary-school subject is now showing great vitality, and undoubtedly the question of its acceptance by the State universities will soon be general." One of the colleges accredits "farm accounts" and another "vegetable gardening," but the subject usually approved is merely "agriculture." This subject was credited at first usually for one-half or one unit, but now many colleges allow three or four units for it, and nearly all of the colleges approving it will allow two units.[25]

Bookkeeping has also increased considerably, although less in amount than any of the preceding subjects. It is usually credited at one unit. Ordinarily no further definition than "bookkeeping" is given, although a few colleges specify "double entry."

Music includes vocal and instrumental, harmony, counterpoint, appreciation, dictation, and sight singing. Few colleges credit or recognize work in chorus, orchestra, or glee club, although this work is quite commonly credited toward high-school graduation on the same basis as other unprepared work, two periods of unprepared or laboratory work equaling one period of prepared work. Ordinarily, with two or three practices a week in unprepared music, a unit is earned in from 2½ to 3½ years. There is a distinct trend toward accepting vocal and instrumental music when studied outside the school but under school direction and guidance. Of course

[25] See report of the committee on encouraging college entrance credit in agriculture. Proc. Nat. Educ. Assoc., 1910.

Also report of the committee on agriculture of the Southern Association. Proc. twenty-first meeting, Assoc. of Col. and Sec. Schs. of the Southern States, p. 30 ff.

no such credit would be accepted by the college unless it had been previously accepted by the high school toward graduation. Such organizations as the College Entrance Examination Board and the New York Regents have examined in music for a number of years, but relatively few examinations have ever been taken.

Commercial geography has more than doubled during the period. The widespread interest in commercial education, and its general development in the high-school curriculum, are doubtless responsible for the increase in both commercial geography and commercial law.

Stenography and typewriting trebled in amount during the period. A few colleges state that credit is given in these subjects only on examination, and occasionally such colleges give credit commensurate with the speed which the applicant can make in the examination.[26]

Normal training includes methods and management, pedagogy, history of education, education, and reviews. In this connection it may be said that many colleges list the credit they will allow on the various grades of teachers' certificates. In order to be accredited for college entrance, normal training must usually be given in a department which has been accredited by the State department of education.

There is a striking growth in the acceptance of Bible study as an entrance subject. Although study of sections of the Bible has long been accepted as "English," the development of systematic Bible study in the public high school is of comparatively recent origin.[27] Although comparatively few colleges accredit it as yet, the indications would lead one to believe that in another decade systematic Bible study will be much more common in lists of entrance subjects than at present.

Commercial knowledge might well include commercial law and commercial geography, but these were considered separately because they were more prominent than history of commerce or business organization. As has been suggested before, the commercial knowledge group was "dragged in" by the movement for commercial skills.

Public speaking shows signs of increased importance. For a long time it has been a part of secondary-school activity, but rarely as a

[26] The Association of Colleges and Secondary Schools of the Southern States adopted in 1915 the requirement that 1.5 years of shorthand would be evaluated at 1.5 units if the applicant could take 60 words a minute; and typewriting would be worth 0.5 unit if the applicant could write 40 words a minute. See Twenty-first Proc., 1915, p. 31.

[27] See Proc. N. Cen. Assoc. for 1905, p. 21 ff. The following quotations are typical of the caution with which new subjects are accepted: "Bible study will be accepted only on evidence that it represents serious work and sound methods." (*Bates College, 1914.*) "Bible study will be accepted if the work is of the standard indicated by the committee on definition of the unit of Bible study for secondary schools." (*Friends University, 1917.*)

"study." The rapid development of extemporaneous speaking contests and debating, and the movement toward oral English, are undoubtedly behind the trend here shown.

Commercial skills includes occasional mentions which are too few to tabulate separately, but which show increase in combination.

Table 49 shows the subjects which were listed by the 273 colleges in 1922 as being acceptable for entrance purposes. Those starred have appeared since 1913. There are 111 subjects in the list. Although some of them are mentioned by but few colleges, they are "subjects recognized as suitable for satisfying college entrance requirements."

TABLE 49.—*Complete list of subjects acceptable for college entrance by 273 colleges in 1922*

[Subjects starred have appeared since 1913]

*English:*
- Grammar.
- Composition.
- American literature.
- English literature.

*Mathematics:*
- Algebra.
- Arithmetic.
- Plane geometry.
- Solid geometry.
- Trigonometry.

*Foreign Languages:*
- Latin.
- Greek.
- French.
- German.
- Spanish.
- Italian.
- Portuguese.
- Polish.
- Hebrew.
- Slovak.
- Danish.
- Swedish.
- Norwegian.

*Social Science:*
- Greek history.
- Roman history.
- Medieval history.
- Modern history.
- English history.
- American history.
- Civics.
- Community civics.
- Economics.

*Social Science*—Con.
- Sociology.
- Citizenship.
- Government industrial problems.

*Science:*
- Physics.
- Chemistry.
- Botany.
- Zoology.
- Physiology.
- Astronomy.
- Geology.
- Physiography.
- General science.

*Household Arts:*
- Sewing.
- Cooking.
- *Millinery.
- Clothing.
- Shelter.
- Foods.

*Manual Training:*
- Drawing—
  - Freehand.
  - Mechanical.
  - Architectural.
  - *Mathematical.
  - Geometrical.
- Forge.
- Foundry.
- Woodwork.
- Wood carving.
- Metal work.

*Manual Training*—Con.
- Chipping, filing, fitting.
- Machine tool practice.

*Commercial:*
- Stenography.
- Typewriting.
- Business correspondence.
- Bookkeeping.
- Accounting.
- Office practice.
- *Materials of commerce.
- Commerce.
- History of commerce.
- Commercial Geography.
- Commercial Arithmetic.
- Commercial law.
- Economic history.
- Banking.
- *Salesmanship.
- Business organization.
- Economic geography.

*Music:*
- Harmony.
- Counterpoint.
- Appreciation.
- Dictation.

TABLE 49.—*Complete list of subjects acceptable for college entrance by 273 colleges in 1922*—Continued

[Subjects starred have appeared since 1913]

*Music*—Con.
- Sight singing.
- Vocal.
- Instrumental.
- Club, etc.

*Normal Training:*
- Methods and Management.
- History of Education.
- Teaching training.
- Education.
- Psychology.

*Miscellaneous:*
- Geography.
- Christian doctrine.
- Agriculture.
- *Farm accounts.
- Vegetable gardening.
- *Argumentation, debating.
- *Reserve Officers' Training Corps.
- Surveying.
- *Sunday-school work.

*Miscellaneous*—Con.
- Art.
- *Modeling.
- *Military science.
- History of art.
- *History of science.
- Bible.
- Public speaking.
- Elementary law.
- Bird life.
- Nature study.
- *Physical education.

The amount of credit allowed to nonacademic subjects has been constantly increasing. In 1913 the average credit allowed for these subjects by all of the colleges allowing such credit was less than two units. In 1922 practically all colleges allowing such credit would allow four units.

Thus it will be seen that in less than a score of years many new courses have found their way into published college entrance requirements. Although commonly recognized now, these subjects have faced stiff opposition, and many college catalogues issued during the past 10 years still indicate distrust in them. Some colleges would credit the new subjects only on examination of the school and the pupil. Other colleges or organizations set up standards in equipment, etc.[28]

## COLLEGE CREDIT FOR HIGH-SCHOOL WORK

In 1913 Judd noted in the report of the Commissioner of Education that "high schools are assuming college work also." The whole question of excess credit for high-school work has been discussed comparatively little, and to the layman this statement would probably be more or less startling. However, as early as 1899, from no

[28] See report of the committee on agriculture. Twenty-first Proc. Assoc. of Col. and Sec. Schs. of the Southern States, p. 30.

Stetson University in 1916 (catalogue 1916–17, p. 66) used this phrase: "Greek, Latin, English, mathematics, physics, chemistry, and modern languages being worth more than the recently accepted subjects."

Bates College in 1913 (catalogue, 1913–14, p. 36) stated that "only subjects that require serious intellectual effort will be considered." This statement was still being published in 1922.

On the other hand, Goucher College in 1917, after stating the required subjects, said, "all other subjects defined by the board (College Entrance Examination Board) are of equal value if they cover the standard requirements."

less a group than the committee on college-entrance requirements of the National Education Association came this resolution:

*Resolved*, That the colleges will aid the secondary schools by allowing credit toward a degree for work done in secondary schools, beyond the amount required for entrance, where equal in amount and thoroughness to work done in the same subjects in college.[29]

The early definitions of the unit did not define it in terms of four years' work, but more or less loosely in terms of one year's work. Consequently, as the unit became more universally used, there was bound to be trouble due to the different interpretations placed by schools upon unit values. As a result there are records of graduates of different high schools offering from 14 to 20 units of credit for practically the same work. After the more accurate definitions of the unit—that no high school can possibly give more than 16 units for four years' work—most of this abuse was eliminated.

The commission on accredited schools of the North Central Association in 1902 defined its stand on the subject of excess credit as follows:

1. The commission favors the general principle that the colleges should give advanced credit for secondary school work when sufficient in amount and quality done in addition to the 15 units required for entrance.
2. In the opinion of the commission, no advanced college credit should be given for less than one year of secondary school work in any subject, except so far as half units are specified in the definition of unit courses or for any study that is not pursued later than the second year of the high-school course.
3. The amount of advanced credit to be awarded in any subject should be determined by the college which the student enters.[30]

There was doubtless much abuse of this excess credit privilege, especially while colleges were still competing for students. About 1908 a tightening up began to occur, and instead of accepting excess credit on certificate, examinations began to be used more freely, to test the applicant in the subjects for which he sought extra credit. The following statement from the meeting of the National Conference Committee on Standards (March, 1918) is typical of the attention given to this problem:

The conference recommends that college credit be given for work done in secondary schools only on examination, and that permission for such examination be given only when there is evidence of thorough work under competent instruction.[31]

Of the 314 colleges in this study, 130 stated (1913) that they would give credit for excess high-school work. In 1922 this number

[29] Proc. Nat. Ed. Assoc., 1899, p. 662.
[30] Seventh Proc. N. Cen. Assoc., p. 8.
[31] Eleventh Rep. Nat. Conf. Committee, 1918, p. 8.

was 134. This change of four colleges does not represent the real changes which occurred during the period, however, for 13 colleges had ceased to allow such credit, while 17 had begun the practice. Three colleges emphasize that "in no case" would college credit be allowed for excess high-school work.

Of the 134 colleges in 1922 allowing excess credit, 127 stated that it was allowed on examination only. Such discouraging terms as "rigid" and "rigorous" are frequently found.[32] The other 7 colleges allow credit on various combinations of "recommendation of the principal," "recommendation of the head of the department," "ability to do college work in the same or allied college subjects," etc. Only 3 colleges allow credit on the basis of certificate alone. The University of Wooster allows excess credit only to individuals who rank in the highest third of the graduating class.

A few colleges require examinations in subjects prerequisite to those in which credit is sought. In 23 cases the colleges allow and adjust credit only after the student has been in college one semester and has demonstrated his ability to pursue college work successfully. The fullness with which excess credit is treated in college catalogues varies from a short sentence such as "Excess credit is allowed only on examination" to statements as long as that of the University of Chicago, covering half a page, or that of Mount Union College (Ohio) covering three-fourths of a page.[33]

The subjects in which excess credit may be obtained are usually mentioned as foreign language and mathematics. No generally accepted amounts of credit allowed exist. Some colleges state two units as a maximum. Practically all of them state no amount. A number of colleges require that the applicant have had a full semester's work beyond graduation before any excess credit will be considered.

In like manner there is no commonly accepted practice regarding the ratio of amounts of high school to college work or credit. The amounts stated vary from three college "hours" for one high-school unit to nine for one. A few colleges state that the work will be credited to the extent of 50 per cent, meaning that a year's work in a high-school subject is equivalent to one semester's work at college.

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[32] Defiance College (Ohio) stated in 1913 that "any person receiving advance credit must, in the judgment of the committee on entrance, show a greater degree of development than shown by the average high-school graduate." (Catalogue, 1913–14, p. 30.) This statement had disappeared by 1922.

[33] The University of Chicago has worked out very carefully a complete system for accrediting this work, but it applies only to "cooperating schools."

The following quotations illustrate the extreme attitudes of the colleges: "No efforts are spared to secure for each student the very best classification possible and to place him where he is qualified to do his most effective work." (Midland College, catalogue 1913–14, p. 17.)

Students are advised against trying to secure extra high-school credits with the hope of obtaining college credit for them. (Jamestown College catalogue, 1921, p. 18.)

## SUMMARY

One-fourth of the 314 colleges made some change in the degrees offered during the period 1913–1922. However, in the total there has been little change, because about as many colleges added the various degrees as withdrew them.

There is a slight increase in the tendency of the colleges to offer two degrees rather than one, three, or four. There is a noticeable trend toward single admission requirements for entrance to all degrees a college may offer.

All colleges making any definite requirements at all specify English. There has been little change in English requirements during the 10 years. Three units are almost universally required for entrance to all degrees. There is an increased tendency for the colleges to accept four units of English.

Practically all colleges which require English require mathematics. There is a decided trend away from a two and a half or three unit requirement toward a two-unit requirement. This is due to the reduction of the requirement in algebra from one and a half units to one unit, and to the disappearance of solid geometry. The B. S. degree requires slightly more mathematics than the other degrees do.

Foreign-language requirements have shown a considerable decrease during the past 10 years. Not only has the number of units required decreased rapidly, but the number of colleges requiring no foreign language for entrance nearly trebled. In 1913, 11 per cent of the degrees required no foreign language and in 1922, 30 per cent required none.

The A. B. degree requires more foreign language than the other degrees do, both in number of units and in number of different languages.

There has been a decided decrease in the number of degrees prescribing two languages (31 to 13 per cent). This decrease is greater in the B. S. than in the A. B. requirements.

Nearly two-thirds of the language requirements are unspecified—that is, any foreign language may be offered. The A. B. degree specifies its requirements in foreign language more frequently than the B. S. degree does.

The percentage of degrees requiring no Latin increased from 58 in 1913 to 76 in 1922. The four-unit requirement, the most popular in Latin, decreased by one-half (27 to 13 per cent). Latin is rarely prescribed for entrance to the B. S. degree.

Approximately 10 per cent of the degrees required Greek in 1913. In 1922 only 2 per cent required it. German and French are rarely required.

There is a strong tendency toward the acceptance of not less than two units of any foreign language. The maximum has been gradually raised, so that now almost any college will credit Latin, French, or German to four units.

Spanish has more than doubled (in number of times mentioned as being acceptable) during the 10 years. As yet it can hardly be classed as a full-fledged brother of French or German, because about half of the colleges will accept it only to the extent of two units. Italian and Scandinavian have also increased in mention during the decade.

Three-fourths of the degrees require social science for entrance, the usual requirement being one unit. Fifty-seven per cent of the degrees do not specify what branch of social science shall be offered. Of those that do specify, ancient history, American history, and general history are mentioned most frequently. Social-science requirements have changed little during the decade.

About half of the degrees require science for entrance. The 10-year period shows a slight decrease in the number of degrees requiring it. The amount required is almost always one unit. The B. S. degree requires science more often than the other degrees do. Only rarely is a branch of science specified. When specified, it is usually physics. General science is increasingly mentioned as being acceptable.

The movement for the present variety of commercial and vocational subjects began about 1900. In spite of stiff opposition, nearly all of the subjects offered now as such appeared by 1910. The number of colleges accepting these subjects in entrance requirements has increased both rapidly and steadily. Since 1900 about 50 new subjects (out of 111 listed in 1922 by 273 colleges as being acceptable) have found their way into published college entrance requirements.

Nearly one-half of the colleges allow college credit for advanced high-school work. This credit is allowed after examination, and the amount is usually discounted to about one-half of its face value. Foreign language and mathematics are the subjects in which excess credit is most frequently allowed.

# CHAPTER V

## PERSONAL REQUIREMENTS FOR ENTRANCE TO COLLEGE—LIMITATION OF ENROLLMENT

The earliest requirements for entrance to college were mental attainments of a very narrow and definite type, viz, facility in Latin and Greek. As new subjects and new limitations were added, personal requirements, in the matters of age and moral character, also became a part of recognized entrance requirements.[1] This was especially true while the colleges were training largely for the ministry, and before any definite public-school system prepared the average boy for college. As time went on and the college ceased training largely for the ministry, and as a public-school system grew up, requiring a more or less definite time for completion, these two requirements became more formal and less essential. Recently physical requirements, and still more recently intellectual requirements beyond the minimum of graduation from a preparatory school, have been added and give promise of great significance for the future. The rapid increase in college enrollments during the past few years has centered new attention upon methods of choosing desirable candidates. Because of the large number of pupils who can pass any program of "academic" preparation, attention must be centered on other types of preparation or fitness (e. g., personal requirements), in order that only the best of those who do pass the academic requirements will be selected. This chapter will discuss these personal requirements and evaluate them in the light of present-day needs.

### AGE REQUIREMENTS FOR ENTRANCE TO COLLEGE

To what extent do colleges specify the minimum age at which students may enter? What ages are specified? How important is an age requirement?

Table 50 shows the minimum ages specified by the various colleges, and the number of colleges specifying each minimum. All of the 314 colleges of the study are considered.

[1] In 1745 Yale College added arithmetic to its entrance requirements and at the same time required that the applicant "shall bring sufficient testimony of his blameless and inoffensive life."

TABLE 50.—*Minimum age requirements for entrance to college and number of times each was specified, 314 colleges being considered*

| Age | Number of colleges specifying ages in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 14 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 |
| 15 | 17 | 13 | 13 | 13 | 13 | 13 | 13 | 11 | 10 | 10 |
| 16 | 63 | 65 | 64 | 66 | 62 | 60 | 60 | 62 | 60 | 57 |
| 17 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Total colleges making requirement | 86 | 84 | 82 | 84 | 80 | 78 | 77 | 77 | 74 | 72 |
| Total colleges making no requirement | 228 | 230 | 232 | 230 | 234 | 236 | 237 | 237 | 240 | 242 |

Table 50 shows that approximately one-fourth of the colleges prescribe a minimum age at which entrance may be made. The ages range from 14 to 17, with 16 the most frequently mentioned. There is a net decrease of 14 in the number of colleges stating age requirements in 1913 and 1922. The question may well be raised, Of what use are such requirements? or How necessary are they?

The literature on articulation of secondary and higher institutions has little to say about the minimum age requirements or specifications. This is due mainly to the fact that graduation from the high school presupposes sufficient maturity to enable the applicant to carry college work. On the other hand, there has been a very common feeling of late years that the student does not enter college soon enough. Thus we find the conference on Greek of the Committee of Ten making this suggestion in 1892:

> That in the following recommendations this conference desires that the average age at which pupils now enter should be lowered rather than raised.[2]

On the other hand, we find that the Southern Association of Colleges and Secondary Schools, at its first meeting in 1895, adopted the following article as a part of its by-laws: "No college that admits students under 15 years of age shall be eligible to membership in this association."[3] This article remained a part of the by-laws until 1908, when it was dropped.

In 1896 the Association of Colleges and Preparatory Schools of the Middle States and Maryland arranged a general discussion of "age requirements" as one of the important themes at its meeting. At this meeting President Eliot stated, "I put the proper age—the best age—for admission to a college or scientific school in our country at 18."[4]

[2] Rep. of Committee of Ten, 1892, p. 14.
[3] Proc., 1895. By-laws, p. 6.
[4] Proc., tenth meeting, p. 79.

Nearly all of the speakers at this meeting favored diminishing the entering age, if possible. Doctor Brooks, superintendent of schools of Philadelphia, stated:

> There is a very general agreement that the average age of graduation from our colleges is too high. This is shown to be about 23 years. The Yale Class Book of 1890 gives the average age of the class of 1891 as 22 years, 7 months, and 12 days; 14 were over 26, and 3 over 30. I think it can not be doubted that pupils bright enough to take the college course can be thoroughly prepared in good secondary schools at the age of 16 or 17.[6]

Vice Provost Fullerton, of the University of Pennsylvania, showed that the average age of freshmen at the University of Pennsylvania for the year 1894–95 was 18 years and 5 months, and for the year 1895–96 it was 18 years and 7 months. He then suggested the following means of lowering the entering ages:

> 1. By lowering the entrance requirements or increasing the efficiency of the work done in the schools, or else,
>
> 2. By building up liberal foundations with the purpose of aiding our ablest students to hold out in the struggle until they may attain their highest aim.[6]

President Thomas, at the same meeting, quite definitely laid the blame for high entering ages on the lower schools and implied that the basic causes were an uneducated teaching staff and an unreasonable curriculum.

> I am confident that the present highest entrance requirements, those of the classical course of Table 4 of the report of the Committee of Ten, and even higher requirements than these, are easily attainable at 16, if no time be lost in the primary and grammar grade.[7] I believe that it would be entirely feasible for all of the colleges belonging to this association to give notice that 10 years hence no student over 16 years of age would be received into their freshman class, and at the end of 10 years to have as large entering classes as at present. Some such drastic measure would compel the primary and grammar schools to equip themselves with an educated teaching staff and a reasonable curriculum.[8]

It will be noted that this is a rather ambitious statement in the light of the figures presented showing the average age of freshmen to be about 18.5 years.

The fourth report of the Carnegie Foundation states that in the Province of Toronto the average student enters the high school at 14.2 and passes into the college at 17.2, 18.2, or 19.2, according to his ability and the leaving point which he chooses. The sixth report of the foundation again calls attention to the relatively high age at which the student enters college.

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[6] Proc., tenth meeting, p. 71.

[6] Ibid., p. 90.

[7] The English language is generous in that *anything* is possible *if* * * *. Age-grade and promotion studies show how erroneous it is to suppose that the average child completes the elementary school without losing time.

[8] Proc., tenth meeting, p. 101.

The average age of admission to the better colleges throughout the country is between 18.5 and 19 years, and a boy graduates at the age of approximately 23. If he is then to begin to prepare for a profession, he comes into that profession too late in life and probably lacking a certain resiliency that he would have had had he been brought into it sooner. It is clear that if the university is really to rest upon the college, then the college must come back to a curriculum that will send the boy into the university when he is not older than 20, and the high school must have him ready for college at 16.[9]

Among the latest statistics available at this time are those of Princeton University, published (1923) in the Freshman Herald, the freshman publication. These figures show that the average Princeton freshman was 18 years 7 months and 2 days old at the time of entering.

In an earlier day minimum age requirements may have been necessary. Doctor John says, for instance, "A century ago most of the candidates for college were much younger."[10] At the present time, however, published age requirements mean little or nothing and serve no particular purpose, first, because very few pupils complete the secondary school at 16 (at which, or below which, practically all of the requirements lie), and second, because statistics show that the average age of college freshmen is about 18.5 years.

## MORAL REQUIREMENTS FOR ENTRANCE TO COLLEGE

Moral requirements include any testimonials, references, statements, or the like, required to show that the applicant is reliable, morally sound, of good character, ambitious, etc. In 1913, of the 314 colleges, 176 definitely required such testimonials. No great change in number of colleges making this requirement occurred during the period, 180 requiring it in 1922. During the period 8 colleges dropped the requirement, while 12 colleges added it. A few additional colleges state that such testimonials "may be required," and a few others state that the applicant must furnish them unless he is known to the faculty of the college. Nearly all of the requirements merely state that testimonials of good character must be presented. A few colleges specify interests, capacities, aptitudes, leadership, etc., in various combinations.

Of the 180 colleges which in 1922 definitely stated that such testimonials were required, 19 stated the person or persons from whom they should come. Four were required from pastor or priest, two from citizens neither connected with the school nor relatives of the applicant, and the other 13 from the principal or teachers acquainted with the pupil. In two instances testimonials from

[9] Sixth Rep. of the Carnegie Foundation for the Advancement of Teaching, p. 60.

[10] Requirements for the Bachelor's Degree. U. S. Bu. of Educ., Bul. No. 7, 1920, p. 11.

two different persons were required. In all other cases one testimonial, presumably, was satisfactory.

This requirement is of doubtful importance. In the first place the application blank which the principal fills out and sends to the college for the pupil usually has a question on it regarding the applicant's character. In the second place graduation from an accredited high school to a great extent presupposes a passably good character—not always, to be sure, but usually. Moreover, if the pupil, in the judgment of the principal, were not fit for college, no self-respecting principal would recommend him for college entrance without at least telling the facts and placing the responsibility upon the college authorities.

A far more promising field than that of the formal recommendation for moral character is being opened up by the few colleges which require testimonials from the principal regarding the pupil's capacity for leadership, his interests and aptitudes, his value as a school citizen, his achievements, ambitions, and other personal elements that will aid the college both in assimilating and developing him.[11] With the limitation of numbers of students is coming the intensive, as opposed to the extensive, cultivation of college material. The tendency now getting under way is for the college not to accept 1,000 students and give them all a half-training, but to accept 500 and train them as fully as possible, discovering and utilizing individual aspirations, interests, and equipments.

## PHYSICAL REQUIREMENTS FOR ENTRANCE TO COLLEGE

As yet few colleges make any physical or health requirements for entrance. Only 19 of the 314 colleges made any such requirement in 1913, but 33 of the colleges were making such requirements by 1922. The difference represents additions, no college having dropped the practice. Of course many more of the colleges give examinations after entrance, but this is a part of the training in physical education and is not an entrance requirement.

There is no common practice among the colleges that do make such requirements. Of the 33 colleges that in 1922 made a requirement, 20 stated that a certificate of health from a physician was required, 8 definitely required vaccination, while the others stated various other requirements.

The following statement from the catalogue of Wellesley College is typical of the requirement in the women's colleges:

A statement from the applicant's physician to the effect that she is organically sound and in good health, together with a certificate of successful vacci-

[11] Brown University has developed a most complete procedure for obtaining and cataloguing these personal elements.

nation within five years, must be filed with the board of admission before June 1 of the year in which admission is sought. No candidate can be regarded as finally accepted until she has been given a thorough physical examination by the college medical staff. The college reserves the right to reject any candidate if the results of this examination, in the opinion of the medical staff, justify such action; or to accept the candidate only on the understanding that she will take five years to complete the course.[12]

Denison requires a certificate of one successful or two unsuccessful vaccinations within 10 years, or the applicant "must agree in writing to submit to vaccination within a month after entering Denison University."[13] The requirements of Bates and Beloit Colleges are unique in that they specify for women only. Beloit requires a statement from a physician as to the applicant's "personal vigor." Physical requirements are made more frequently by women's colleges than by men's colleges.

Few individuals would doubt the wisdom of a thorough physical examination as a prerequisite to college entrance and college work. The practice of examining applicants after they have been accepted, and assigning physical work on the basis of this examination, is valuable. At the same time it is expensive in that students are frequently found who are not physically able to carry a full load of college work. Yet the college has already admitted them and given of its time to them when perhaps the prospects are not bright for a a successful completion of the course. If the college limits its enrollment, it has a "bad risk" on its hand, instead of that place being filled by a student physically fit. With the necessity of selecting a few individuals from a large number of applicants will come a more rigid requirement in physical health and vigor.

## INTELLECTUAL REQUIREMENTS FOR ENTRANCE TO COLLEGE

The applicant for college matriculation of the future will be admitted largely on the basis of his general intelligence and his potentialities. Hitherto, speaking generally, any high-school graduate could easily enter college. All he needed was a certain program of studies successfully passed, or a few dozen examination question answers memorized, a task which the average (or poorer) pupil might accomplish with a little industry. Student-poor colleges reached out hungrily for him. He was competed for. Now the colleges are full. They no longer make mad rushes for students. On the other hand, they are trying to find room for those who come, or trying to keep some of them out entirely. Formerly the colleges competed for the students; now the students compete for the colleges.

[12] Wellesley College Bul., 1916–17, p. 27.
[13] Denison University Bul., 1922, p. 34.

When the market is glutted, the buyer gets what he wants at his own price. Similarly, when the number of applicants is greater than the facilities for accommodating them, the college gets what it wants at its own requirements.

There are two main possibilities of action for the college to pursue in selecting, or planning to select, from a crowded field of applicants. In the first place, it can make more rigid demands in subject matter, larger amounts, less election, no "free election," etc. However, this would be impracticable, because a large variety of subjects is now established in school and life activity, because college life itself requires a great variety of subjects and preparations, because subjects are becoming more and more equivalent in "values," and because, other things being equal, a pupil who excels in certain subjects will also probably be able to excel in others.

The other possibility is for the college to select the best of those who have passed whatever courses are required for graduation from the high school or for entrance to the college. In this way the college is assured of getting the best mental material with which to work, and also avoids the grief it would encounter were it to recognize certain subjects to the exclusion of others.

Granted, then, that the college can choose from the applicants those it wants, how shall this be done? Obviously the simplest method would be to take those who stand highest in the various subjects, classes, schools, or other groupings. This is exactly what is being done by the colleges. This practice has come with a rush since the war and, although represented by a comparatively small number of colleges as yet, it promises within another decade to be the outstanding feature of articulation of secondary school and college.

Table 51 shows the number of colleges which have adopted intellectual requirements beyond mere graduation from an acceptable secondary school, for each year of the period 1913–1922.

TABLE 51.—*Number of colleges adopting intellectual requirements for admission, in addition to ordinarily required graduation from a secondary school, for each year of the period 1913–1922*

| Colleges | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
|---|---|---|---|---|---|---|---|---|---|---|
| Number of colleges adopting | 3 | 3 | 3 | 4 | 7 | 8 | 12 | 21 | 26 | 35 |
| Number of colleges not adopting | 311 | 311 | 311 | 310 | 307 | 306 | 302 | 293 | 288 | 279 |

It will be seen that for the first six years of the period only 8 of the 314 colleges made any selection of the applicants on the basis of

quality. The last four years of the period show 27 additional colleges making such a requirement. Of course 35 is only 11 per cent of 314, but about 9 per cent of the 11 per cent has appeared within the last four years, and four years more will probably show a much greater gain.

There is little agreement as yet as to just how to select the best of the applicants. Personnel and psychological tests promise much in the way of classification and selection of students. As was shown in Chapter II, a number of colleges are now using such tests in selecting applicants, and a great many colleges are experimenting with them with such purposes in view.

The University of Michigan, St. Louis University, and Beloit College state that:

> It is expected that the principal will recommend not every graduate but only those whose ability and scholarship are of such superior quality that the school is willing to stand sponsor for their success at the college.[14]

The method of selecting candidates which is the most logical and simplest, and which is growing in popularity very fast, is that of taking only those pupils who rank high in the graduating class of the high school. Northwestern University will admit applicants who rank in the lowest one-fourth of the class only by special permission, and Knox College will not "assure entrance to any such."

Oberlin, Marietta, Millikin, and the University of Wooster will normally admit only those pupils who rank in the upper two-thirds of the class. Millikin and Wooster state the requirement as follows:

> Those in the lowest one-third will be admitted only on presentation of special testimonials from their principals and teachers indicating high character, punctuality, diligence, and likelihood of success in college work. All students so admitted will be held on probation and limited to a schedule of 12 hours of work per week during the first semester, not counting physical education.[15]

Hamline University admits only those who rank in the upper half of the graduating class.

The University of Chicago and Beloit require that the average mark of the applicant for all of his high-school work shall be higher than the passing mark of the school from which he comes by 25 per cent of that difference and 100. Thus if the passing mark of a school were 75, the applicant would have to show an average of 81.25 per cent in order to be admitted. Johns Hopkins makes a somewhat similar requirement in that the average mark in all subjects must be at least "one-fifth higher than that required for graduation." The applicant must take examinations in all subjects in which he fails

[14] Beloit College catalogue, 1922, p. 37.
[15] James Milliken University catalogue, 1921, p. 25.

below this standard. Grinnell uses the same general scheme as that of Chicago except that it requires 50 per cent of the difference between the passing mark and 100, instead of the 25 per cent required by Chicago. In this case, if the passing mark were 75, the applicant would have to average 87.5 per cent in order to enter Grinnell.

Western Reserve and St. Ignatius (Cleveland) require an average of 80 per cent in all prescribed subjects. Goucher requires 80 per cent in all work, while Clark College requires 80 per cent in two-thirds of the work taken. Elmira requires an average of "75 per cent where 60 per cent is passing."

In 1922 the University of Cincinnatti adopted the following progressive scheme:

1922–23. The applicant must average 80 per cent in at least 3 of the 15 units required, and 2 must have been in the last year's work.
1923–24. Eighty per cent in at least 6 units and 4 of these must have been taken during the last two years of the high-school course.
1924–25. Eighty per cent in at least 8 units and 5 must have so averaged during the last two years of the high school.[16]

Mills College requires that where schools make no distinction between a passing and a recommending mark the applicant have average marks of from 5 to 10 per cent above the regular passing mark.

Leland Stanford requires an average during the last two years of the high school of 5 to 10 per cent higher than the recommending mark, provided not more than three units in the first and second years are below recommending grade.

There are other requirements of a more general nature, such as "a reasonable amount of grades should be above the average or median" (Carthage), "13 of the 15 units must be of recommending grade" (Whittier), "entrance examinations will be given where the certificate is deficient or not of sufficiently high grade" (Manhattan), etc.

It will be remembered that only three of the colleges were making any such requirements in 1913, and that three-fourths of those

[16] University of Cincinnati catalogue, 1921–22, p. 92.
A. C. Roberts recently made a study of 581 "D" (passing) and "E" (failing) students to discover the results of the "two-thirds" rule. (This rule provides that students shall be admitted to college, two-thirds of whose credits from the high school are 80 per cent or over.) He found that 32.7 per cent of these 581 students made satisfactory college records; 27.2 per cent failed—these would have been barred by the two-thirds rule; 22.7 per cent failed—these would not have been barred by the two-thirds rule; and 17.4 per cent succeeded in college but would have been barred by the two-thirds rule. (School and Society, Mar. 3, 1923, pp. 246–252.)

that do in 1922 have appeared since 1918. These illustrations indicate very definitely the movement on the part of the colleges to select personnel by means of records of intellectual attainment.

## MISCELLANEOUS PERSONAL REQUIREMENTS FOR ENTRANCE TO COLLEGE

Princeton, Baylor, and the University of South Carolina require the applicant to sign an antisecret society pledge. The pledge used at Princeton is as follows:

> We, the undersigned, do individually for ourselves promise, without mental reservation, that we will have no active connection whatever with any secret society, nor be present at the meeting of any secret society in this institution so long as we are members of Princeton University, it being understood that this promise has no reference to the American Whig and Cliosophic Societies. We also declare that we regard ourselves bound to keep this promise and on no account whatever to violate it.[17]

The University of South Carolina, Rensselaer, Vanderbilt, Northwestern, and the University of Texas require the applicant to sign an antihazing pledge. The South Carolina pledge is as follows:

> I, _____, being duly advised of the regulations against hazing, do hereby pledge on my honor that I will not engage in hazing in any form during my connection with the university.[18]

New York University in 1920 required an oath of loyalty to the United States Government, but this oath is not required now. Jamestown College requires the applicant to sign an entrance pledge to "comply with the letter and spirit of all requirements."

## LIMITATION OF ENROLLMENT

The colleges to-day are crowded. There has been a steady increase in college attendance for several decades, but the increase during the last decade has been the greatest in the history of American higher education. This rapid development has been due largely to two causes. First, the phenomenal development of the public high school, and second, the ever-developing feeling that a college education is a very valuable asset. To what extent has college attendance increased during the past few years? How are the colleges meeting the problem of increased attendance? These are the questions which will be discussed in the next few pages.

Table 52 shows the increase in attendance at colleges or departments of liberal arts and sciences for the decades 1890–1920.

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[17] Princeton University register, 1922, p. 43.

[18] Catalogue of the University of South Carolina, 1920-21, p. 29.

TABLE 52.—*Number of students in colleges or departments of liberal arts and sciences for the decades 1890–1920* [1]

| Colleges and students | 1890 | 1900 | 1910 | 1920 |
|---|---|---|---|---|
| Number of colleges | 657 | 664 | 602 | 670 |
| Number of students | 65,274 | 104,098 | 153,866 | 341,082 |
| Per cent increase over previous decade | | 59 | [2] 48 | 122 |
| Average number of students per college | 99 | 157 | 255 | 509 |

[1] This table was made from statistics found in U. S. Bu. of Educ., Bul. No. 28, 1922, "Statistics of Universities, Colleges, and Professional Schools, 1919-20."

[2] This figure obviously does not represent the attendance accurately enough for comparative purposes, because the attendance shown is for 55 fewer colleges than shown for 1890, 62 fewer than for 1900, and 68 fewer than for 1920. The average number of students per college for 1910 is 255. By counting 667 colleges for 1910 (which is halfway between 664 for 1900 and 670 for 1920) and multiplying this figure by the average enrollment (255) a more accurate figure for comparative purposes will be obtained. This makes the 1910 total 170,951 instead of 153,866, and raises the percentage of increase, 1900-1910, from 48 to 64. As a consequence of this, the percentage of increase of 1920 over 1910 will then be reduced from 122 to 100 per cent.

The Bureau of Education reports that in reply to a circular sent out to the colleges asking for enrollment figures for 1916–17 and 1919–20, the 250 colleges replying reported an increase of 25 per cent for 1919 over 1916. The increase in the freshman class was, of course, the largest. This increase in the freshman class ranged from 61.82 per cent in public institutions to 33.5 per cent in private, the general average being 46.1 per cent. The average increase for the senior class was 6.7 per cent at the same time.[19]

What shall the college do with this greatly increased demand for its services? There are obviously two main possibilities (or three, counting a combination of the two). In the first place the college can raise more funds with which to educate all who apply. That is, "it can if it can." To a considerable extent colleges have raised more funds. Within the past 30 years the value of college property has been greatly increased. Foundations have given away millions; hundreds of munificent private gifts have been made; thousands and thousands of less pretentious donations and bequests have found their way into college coffers; and probably without exception all colleges have raised their tuition and other student-fees.[20]

Table 53 shows some of the more important financial statistics for the last 30 years.

TABLE 53.—*Increase in financial standing of American colleges for the decades 1890–1920* [1]

| Item | 1890 | 1900 | 1910 | 1920 |
|---|---|---|---|---|
| Amount of productive funds | $76,680,076 | $166,193,529 | $258,376,878 | $556,350,145 |
| Productive funds per student | 490 | 843 | 946 | 1,066 |
| Total receipts | 18,614,994 | 40,533,926 | 88,369,734 | 240,141,994 |
| Total income per student | 68 | 145 | 258 | 363 |
| Average value of all property per school, excluding productive funds | 129,183 | 292,773 | 553,132 | 964,271 |
| Average value of all property per student, excluding productive funds | 542 | 986 | 1,215 | 1,239 |

[1] This table was made from statistics found in U. S. Bul. No. 28, 1922.

[19] U. S. Bu. of Educ., Bul. No. 21, 1921, "Higher Education, 1918–1920."

[20] It is interesting to note in this connection the number of colleges which now publish a "Form of bequest" as a part of the regular college catalogue or announcement.

Table 53 shows the great increase in the finances of the colleges. The private benefactions for the year 1919–20 reported by the Bureau of Education totaled over $65,000,000. At the same time a comparison of this table with the one showing increase in attendance will disclose that the increase in income does not keep pace with the growth of the student body. For instance, "productive funds" increased 55 per cent from 1900–1910, while the number of students (taking the figures for the liberal arts colleges) increased 64 per cent; for 1910–1920 the "productive funds" increased 110 per cent, while the number of students increased 100 per cent. This is only a prima facie comparison, however. The figures shown above for 1920 include 80 private or independent institutions. Such schools are usually self-supporting or nearly so, and this fact would decrease the value of the figures shown and increase the gap between increase in students and increase in funds. In the second place the dollar of to-day and the dollar of 1910 and 1900 are not of equal value. These two factors make for a still greater failure of the funds to increase proportionally with increase in students.[21]

Increases in salaries, the addition of departments of research, welfare, and other departments which require outlays but bring little or no revenue, increased cost of equipment, apparatus, materials, etc., have cut heavily into the "increased" resources of the college.[22] Relatively few colleges are entirely self-supporting, and an increase in number of students means an increase (tending somewhat toward diminution) in expense, both absolutely and relatively. There are few colleges but that have had campaigns for funds, buildings, endowments, etc., during the past 10 or 15 years; and all of them have levied on the students for higher fees. Yet, in spite of all of the increases in funds, the colleges are unable to accommodate all of the candidates who seek admission.

The second possibility is for the college to limit the enrollment to a certain number which it thinks it can accommodate. This is what is being done. In 1913 only 5 of the 314 colleges kept the enrollment of students to certain limits. In 1922, 19 of the colleges stated or implied that enrollment was limited. The reasons given for this limitation are stated in various forms. Occidental College stated (1916) as its purpose, "To work with selected material and not to permit increased attendance without a corresponding increase in equipment and teaching force."

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[21] Tuition and other fees have been raised, of course, but few (or no) colleges would claim that the per-student fees cover all of the per-student expense. Thus with a net "loss" or expense on each student an increase in the number of students would not wipe out this "loss," even though a larger number of students would likely tend to diminish it to some extent. It can not be held that tuition fees pay the student's bill.

[22] See Bul. No. 28, 1922, p. 106ff.

Oberlin stated, in initiating this practice in 1916:

> This policy of limiting the numbers has been adopted by the college for the purpose of turning the added resources of the college for the next few years into improving the quality of instruction offered, instead of barely keeping pace with numerical growth, and also to secure a more carefully selected body of students able to profit by the opportunities the college offers.[33]

The most usual reason implied or stated for limiting the number of students is merely lack of facilities. Rochester, for instance, says (1921): "Limitation of size of the freshman class is due to the fact that with its present faculty and equipment the college is unable to give efficient instruction to a larger number of students." Macalester (1922) is "unable to accommodate all who apply for admission"; Penn State (1914), "owing to crowded conditions"; Mount Holyoke (1913), "limited space," etc.

There are a number of methods employed in selecting from candidates for admission those desired by the college. No common method has been devised or adopted, although a committee of the national conference committee on standards of colleges and secondary schools is at work on this problem. In 1922 the conference committee reports:

> It was felt that, as the methods of limitation are still in the experimental stage, it is not desirable at this time to adopt formal resolutions. The committee was therefore continued and requested to report again next year.[34]

It is very probably true that, so far, the colleges choose largely on the basis of high-school marks or standing as discussed in a previous section of this chapter. However, other items are mentioned and increasingly so.

In 1905 the trustees of Vassar College voted to limit the student body to 1,000, the limitation to continue for five years. At the expiration of this time the board voted to maintain this limit indefinitely. As one of the earliest colleges to limit its enrollment, Vassar has developed the following procedure:

> We have not tried to evaluate mathematically the various elements of desirability or to assign quantities to different kinds of fitness. From all the evidence before us, examinations, school records, letters of recommendation, etc., the committee renders its composite judgment to select the best material from the whole list of competitors. Thus far we have not found any great divergence between capable scholarship and good vigorous qualities of leadership in character. The membership of our committee on admission includes the president, dean, secretary of the committee on admission, and three representatives from the faculty.[35]

It might be said here that Wellesley, Mount Holyoke, and Vassar all advise candidates to apply several years in advance of the time

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[33] Oberlin College catalogue, 1916–17, p. 92.
[34] Proc. Nat. Conf. Committee, 1922, pp. 5, 6.
[35] Prof. C. M. Thompson, Assoc. of Amer. Col., Vol. III, No. 3, p. 155.

they expect to enter. In 1922 Vassar closed its entrance lists, with the exception of a number of "honor places," until September, 1927.

In 1919 Dartmouth had 1,000 more applicants than the college could accommodate. The following year the list was closed in May, four months early. The plan adopted at Dartmouth has been widely discussed because of its two unique features of "geographical distribution" and "vocation of parents" elements. Regarding this plan President Hopkins says:

The college represents a rather interesting feature in that Dartmouth is not the predominant institution in any preparatory school of the country, and the men who come to Dartmouth from the preparatory school are a large group of school minorities of small dimensions. For instance, in the last entering class of 602 men, 315 schools were represented, and the maximum delegation from any school outside of Hanover is 10, from Phillips Exeter. * * *

We have provided that for the time being all applications of men scholastically prepared from west of the Mississippi River and south of the Mason-Dixon line shall be accepted.

Complementary to this, we are likewise expecting to take the entire group of those qualified who apply from New Hampshire, since New Hampshire is the home State of the college, and since its men are in a particular sense men of the Dartmouth neighborhood.

Finally, there is one added provision in regard to which there has perhaps been more curiosity than in regard to anything else connected with the project, namely, that attention shall be given to the vocational background of the home from which the student comes. This provision is designed to break up any tendency toward a standardized group and to insure that the college shall have not only the sons of business men and sons of farmers, while at the same time it is insisted that we do not sacrifice that group of serious-minded men who, under the necessity of earning their own way, seek help from the college in the form of scholarships.[36]

Macalester College limits its enrollment in the following way:

First, the student should have sufficient capacity and adaptability to profit by attendance at the college. Capacity is indicated by the application blank filled out by the student's high-school principal. The college may, at its discretion, require mental tests in addition. Adaptability will usually be determined, in a preliminary way, through a conference with the president. In case of students who live at a distance, correspondence and recommendations may take the place of an interview.

Second, the college will give the preference to students who plan to stay a longer period of time over those proposing to remain a shorter time. Accordingly, applicants are required to state their plans with respect to college and technical education. * * * The entrance of students expecting to remain but a single year is discouraged.[37]

Ohio Wesleyan adds the unique suggestion of a "preliminary registration," as explained below.

This limitation will be effected by (1) refusal, as heretofore, to continue in college those who fail to meet the standards, and (2) careful selection of can-

[36] Eighth Rep. Assoc. of Amer. Col., Vol. III, No. 3, p. 157ff.
[37] Macalester College Bul., 1922, p. 31.

didates for admission, on the basis of full information concerning their health, their scholarly interest and abilities as shown in the high school, and their seriousness of purpose, honesty, and moral character.

In this connection, attention is called to the plan for preliminary registration of high-school students. This plan gives the student an opportunity to demonstrate his fitness for admission to college while completing his high-school course; it enables the college to advise him during his preparatory course on the coordination of his high-school studies with those of the college, and to become familiar with his fitness to enjoy the privileges for which he has applied. Preference will, in all cases, be given to candidates who, by such preliminary registration, or in other similar ways have enabled the committee on admission to ascertain their qualifications for collegiate training."

Thus it is seen that limitation is not a fancy, but an actuality making its appearance in definite practice. The colleges are beginning to limit in two ways: First, by requiring higher intellectual attainments, and second, by devising definite procedure and providing the mechanism which will evaluate the other potentialities of the applicant. The movement is only in its infancy. Another decade or so will undoubtedly show practically all colleges using some specific means of limiting enrollment.

## SUMMARY

One-fourth of the colleges specify minimum age requirements at which entrance is allowed. The usual age specified is 16. There appears to be little or no need for such a requirement, because the average pupil will not reach college much before 18.5 years. There is more of a feeling for a maximum than for a minimum age requirement.

More than one-half of the colleges definitely require testimonials from applicants in regard to moral character. The usual more formal recommendation is giving way to a "personal" recommendation in which ability, capacities, interests, leadership, etc., are the predominant elements.

Only 11 per cent of the 314 colleges in 1922 made any requirement of physical fitness. The number of colleges making this requirement nearly doubled since 1913, but it is small. With the present tendency toward physical education and the necessity for selecting carefully from candidates for admission, the physical requirement promises to be of real importance.

There is a very definite movement to select from the field of candidates only those who are considered the "best risks." The method most commonly used is to take only those who are in the upper part of the high-school graduating class, those with high marks, etc. Eleven per cent of the colleges now use some such selective proce-

" Ohio Wesleyan University Bul., 1923, p. 83.

dure, as against one per cent in 1913. This field promises the most significant developments in the articulation of secondary school and college during the next few years.

A very few colleges require antisecret society and antihazing pledges.

Enrollment in liberal arts colleges has increased over 500 per cent since 1890. The resources of the colleges have also increased greatly but not in proportion to the number of students. The result is that the colleges are crowded and are beginning to limit the size of the entering classes. A number of methods are being used to select applicants, among which such elements as interest, ability, capacity, preparation, intellectual record, ambition, and the like, are receiving most attention. Limitation promises to become the rule rather than the exception within a very few years.

## CHAPTER VI

# FLEXIBILITY OF COLLEGE ENTRANCE REQUIREMENTS

Originally college entrance requirements were rigid. There was no flexibility. Certain subjects or facilities were required for which no substitutes were allowed. However, such factors as the development of the college curriculum, with its complementary demand for specific preparation, for specific courses or curricula, the development of the secondary school curriculum with its demand for college recognition, the rapid development in size and importance of the public high school, a growing recognition and increasing dependence between the high school and the college, and the general development or evolution in educational ideals were among the most important in breaking the rigidity of entrance requirements and in introducing and developing flexibility into definite practice.

There are a number of ways of increasing the flexibility of entrance requirements. The more important of these methods are as follows:

1. By requiring a smaller amount of prescribed work and permitting a greater amount of election in entrance subjects.
2. By increasing the list of subjects from which electives may be chosen.
3. By increasing the maximum amounts of such subjects accepted.
4. By allowing substitution for required amounts and subjects.
5. By admitting students with conditions.
6. By deliberately, or otherwise, failing to exact the full requirements as published.

The second and third of these possibilities have already been discussed in Chapter IV. It will be the purpose of this chapter to examine briefly the practices of the colleges concerning the other four possibilities.

### FLEXIBILITY IN UNIT REQUIREMENTS

It has already been shown that in earlier times no election of entrance subjects was allowed, a full program of such subjects being required. With the development of the elective system in the colleges

since about 1860 or so has come a similar development of election in college entrance requirements. The reasons for this development have been set forth in Chapter III, and it remains here only to point out a few late specific influences and to show the changes which have taken place during the past decade.

The total number of units of subjects a college requires for entrance may be divided into three groups. The first of these groups is what may be called prescribed or required units (such as "English, three units"), which are demanded of all applicants and for which no substitutes are accepted. The second group is that of electives or restricted electives in which the applicant must offer subjects and amounts from a list published by the college, but in which he has considerable freedom of choice. The third group is what may be called free or unrestricted elective units, in which an applicant may offer any subject taught in an approved secondary school.

Table 54 shows the number of units prescribed out of the total number required for entrance:[1]

TABLE. 54.—*Number of units of prescribed subjects required for entrance to college and frequency of each requirement, all degrees being considered*

| Number of units | Number and per cents of degrees requiring in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| None | 15 | 14 | 15 | 15 | 14 | 15 | 15 | 15 | 14 | 16 |
| Per cent | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 1 to 3 | 5 | 7 | 7 | 7 | 8 | 13 | 12 | 13 | 13 | 8 |
| Per cent | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 |
| 4 to 6 | 13 | 14 | 18 | 21 | 28 | 26 | 30 | 37 | 46 | 53 |
| Per cent | 2 | 3 | 3 | 4 | 5 | 5 | 6 | 7 | 9 | 10 |
| 7 to 9 | 109 | 115 | 132 | 147 | 156 | 158 | 168 | 188 | 187 | 192 |
| Per cent | 20 | 21 | 24 | 27 | 29 | 30 | 31 | 36 | 36 | 37 |
| 10 to 12 | 279 | 277 | 258 | 245 | 239 | 241 | 229 | 207 | 198 | 193 |
| Per cent | 51 | 51 | 48 | 46 | 45 | 45 | 41 | 39 | 38 | 37 |
| 13 to 15 | 121 | 110 | 108 | 102 | 89 | 82 | 73 | 68 | 65 | 58 |
| Per cent | 22 | 20 | 20 | 19 | 17 | 15 | 14 | 13 | 12 | 11 |
| Total degrees | 542 | 537 | 538 | 537 | 534 | 535 | 527 | 528 | 522 | 520 |

Table 54 shows that since 1913 there has been a decided trend away from the larger prescriptions of entrance units, 10 to 15 units, and toward the smaller requirements of 1 to 9 units. This trend really begins in 1915. The no-requirement and the 1 to 3 unit range remain practically the same during the period. The 4 to 6 range increases from 2 to 10 per cent, and the 7 to 9 range still more, from 20

[1] In this classification are included not only such specific subjects as English, chemistry, algebra, etc., but the more general requirements of mathematics, foreign language, science, etc., each of which is often required without a particular branch, such as algebra, Spanish, physics, etc., being specified. While no particular subject may be named, the amount in the general group is nevertheless definitely specified.

In order to facilitate comparison, the total number of units required for entrance (usually 15) was divided into five groups, and a sixth group of "no requirement" added. The upper limit of each range or group includes all units and half units up to and including that number, but the lower limit includes the half unit just below it; for instance, the range 10–12 includes no amounts over 12, but does include the half units between 9 and 10, or the 9.5 units. In the case of the 15-unit upper limit, however, all of the few amounts above 15 are included.

In the tables of this section 804 colleges are represented.

to 37 per cent. The 10 to 12 range decreases from 51 to 37 per cent, and that of 12 to 15 units from 22 to 11 per cent. In 1913, 26 per cent of all of the degrees required 9 units or fewer of prescribed subjects, and 73 per cent required more than 9 units. In 1922, 51 per cent of all the degrees required fewer than 9 units, and 48 per cent more than 9 units.[2]

In 1913 the 10 to 12 unit range was the most popular, 51 per cent of the degrees requiring it. In 1922 the 10 to 12 range was tied with the 7 to 9 range in popularity, each being demanded by 37 per cent of the degrees. About three-fourths of the degrees throughout the period make specific requirements of from 7 to 12 units.

The figures of Table 54 for 1913 and 1922 are also shown in graph form.

This graph shows clearly the movement toward a smaller number of prescribed units for entrance. The median decreases from 10.5 units in 1913 to 9 units in 1922. The jagged appearance of the curve shows how relatively infrequently the number of prescribed units includes a fraction. Usually a whole number, such as 6, 8, 9, etc., is stated, rather than 6.5, 8.5, 9.5, etc. The curve is more jagged for 1922 than for 1913. This is explained in large measure by the fact shown in Chapter IV that "mathematics 2.5 units" has decreased to a great extent to "mathematics 2 units." Half units of other subjects are rarely prescribed.

Table 54 shows the required or specified group of the total number of units required for entrance. Tables 55 and 56 show the other side of the picture—that of allowance of election to the candidate as to what he shall offer. Table 55 shows the number of elective units allowed by the colleges and the distribution of the colleges among the various ranges of election.[3]

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[2] The percentages in these instances total only 99. This is due to the fact that each percentage was computed to the nearest integer.

[3] Elective may mean anything from a choice between two subjects to an absolutely unspecified requirement, in which the applicant may offer any subject being taught in the secondary school. This latter type of election has been designated "free margin" or unrestricted election and will be discussed later. Elective as used here means a choice allowed the applicant from listed subjects, whether 2 or 40. It is recognized that an applicant who can choose from 40 subjects is allowed more freedom than one who can choose from 2 or 3. Doctor Furst, Doctor John, and others have variously used such terms as "alternative electives," "semielectives," "restricted electives," etc. These suggest a finer and much more complicated differentiation. However, for the practical purpose of this discussion, the term "elective" is taken to mean any choice from listed subjects except where a group such as mathematics or foreign language is specified. In this case the amount is classified as a requirement. A few colleges, Missouri Wesleyan, for instance, publish a list of 35 or 50 subjects accepted, and the applicant may offer any listed with no definite specifications being made. This virtually means "free margin" or unrestricted election as explained above, but in this study such a scheme is classified as elective. Free margin as used here refers rather closely to such specific statements as "any subject taught in an approved secondary school," etc. Thus unrestricted election is taken at its minimum rather than being interrupted liberally.

The number of degrees requiring specific amounts of prescribed units and those allowing election will not always be identical in totals, because a few colleges prescribed a certain number of units and allow "unrestricted election" for the remainder. In such a case there is, technically, no election so far as this classification is concerned. This unrestricted election would appear in the tables on free margin.

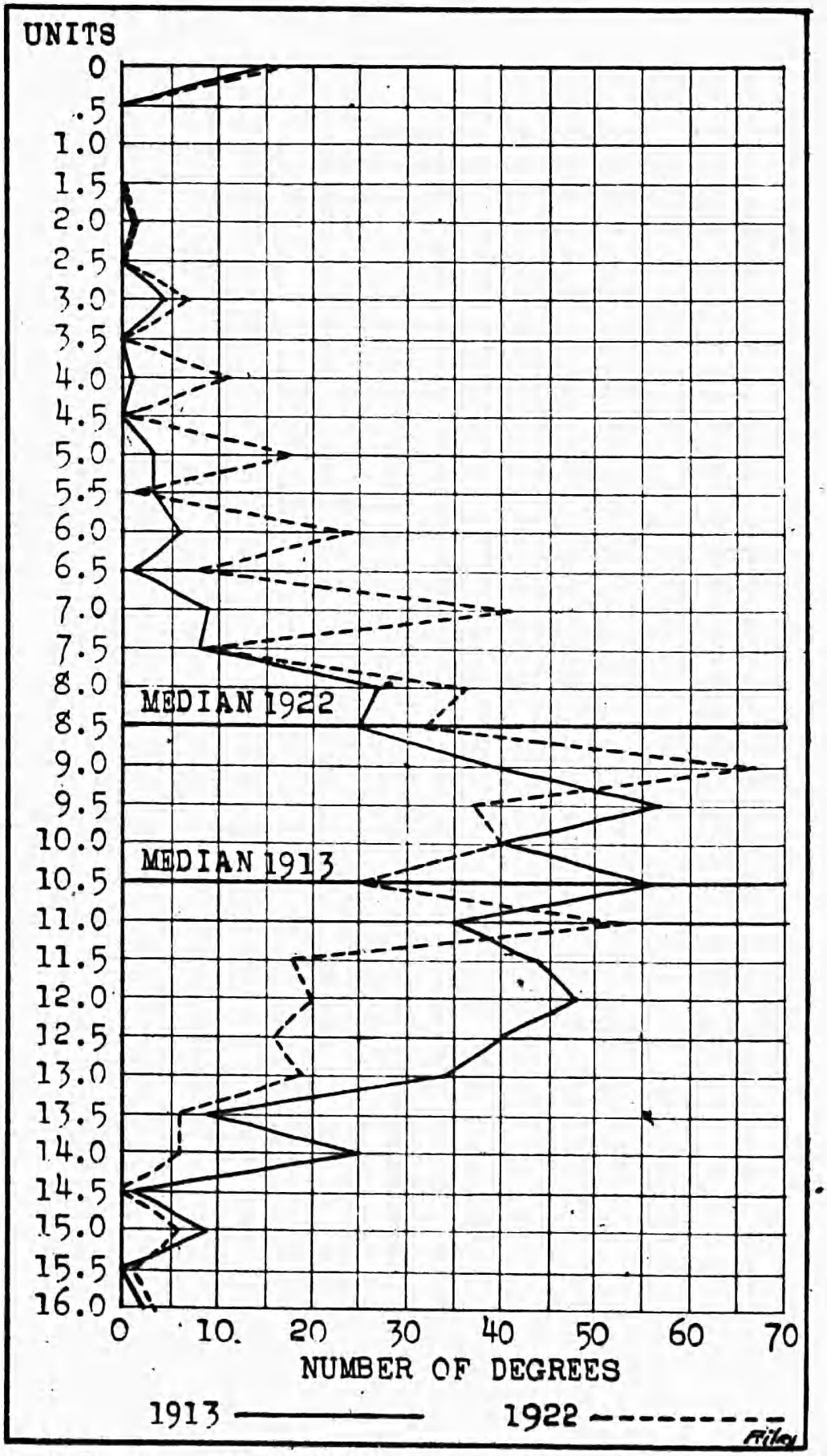


FIG. 1.—Number of units of prescribed subjects required for entrance to college and frequency of each requirement for the years 1913 and 1922, all degrees being considered. (Median 1922 should be 9 instead of 8.5 as shown in the figure.)

TABLE 55.—*Number of elective units allowed for entrance to college and frequency of each range, all degrees being considered*

| Number of units | Number and per cent of degrees allowing in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| None | 23 | 16 | 13 | 15 | 14 | 13 | 11 | 9 | 8 | 3 |
| Per cent | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 1 |
| 1 to 3 | 183 | 179 | 168 | 160 | 139 | 131 | 127 | 112 | 106 | 96 |
| Per cent | 36 | 36 | 33 | 31 | 28 | 26 | 26 | 23 | 23 | 21 |
| 4 to 6 | 233 | 244 | 249 | 261 | 269 | 264 | 251 | 237 | 229 | 221 |
| Per cent | 45 | 49 | 49 | 51 | 54 | 53 | 51 | 49 | 49 | 47 |
| 7 to 9 | 63 | 57 | 63 | 62 | 64 | 68 | 82 | 97 | 107 | 115 |
| Per cent | 12 | 11 | 12 | 12 | 13 | 13 | 17 | 19 | 22 | 23 |
| 10 to 12 | 3 | 3 | 5 | 4 | 7 | 12 | 13 | 16 | 18 | 26 |
| Per cent | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 4 | 6 |
| 13 to 15 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Per cent | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Total degrees | 511 | 505 | 504 | 508 | 499 | 494 | 490 | 477 | 474 | 467 |

In Table 55 the increase in the amount of election allowed by the colleges can be clearly seen. The number of degrees allowing no election decreased from 23 in 1913 (4 per cent) to 3 (less than 1 per cent) in 1922. The allowance of from 1 to 3 units decreased from 36 per cent to 20 per cent at the same time. In other words, 40 per cent of the degrees in 1913 allowed (including no-allowance) up to and including 3 units, while in 1922 only 21 per cent allowed these amounts. The 4 to 6 unit range shows a peculiar trend. In 1913 45 per cent of the degrees allowed election within this range. The percentage for this range increases until 1917, when it reaches 54 per cent. From 1917 it decreases until at 1922 it is at 48 per cent, or about the same position as in 1913. An examination of the higher ranges from 1918 on will help to explain this trend. In the 7 to 9 units range it will be seen that the percentage for 1918 is only 1 per cent more than that of 1913. However, the gain from 1918 to 1922 is 12 per cent. The same condition obtains in the 10 to 12 range, although the numbers are smaller. The gain in this range from 1913 to 1918 is 1 per cent and from 1918 to 1922 it is 4 per cent.

This trend may be summarized as follows: From 1913 to 1917 the number of degrees allowing fewer than 3 units of election decreases, the number allowing 4 to 6 units of election increases, while the number of degrees allowing more than 6 units remains stationary. In 1918 a change occurs. The number of degrees allowing fewer than 3 units of election continues to decrease, the number allowing 4 to 6 units begins to decrease, while the number allowing 7 to 9 and 10 to 12 increases considerably. Moreover, the above table does not show all of the increase in flexibility, because some of the prescriptions required and elections allowed become unrestricted election. These are shown in other tables. From

Table 56 it will be seen that the number of colleges allowing unrestricted election more than doubles during the decade.[3] The figures for 1913 and 1922 from Table 55 are shown in graph form.

The movement toward a greater amount of election in entrance subjects can be easily seen in this graph. The median increases from 3.5 units in 1913 to 5 units in 1922, and as was noted before, this increase does not include a large increase in amount of unrestricted election allowed.

One of the recent movements in the articulation of the secondary school and the college is the development of unrestricted election. This development was probably due largely to the widespread demand that the college cease dominating the secondary school and its curriculum. Illustrative of this demand is the following resolution passed at a conference of representatives of the State university and 48 high schools of Colorado in 1909:

> *Resolved*, That each high school should be at liberty to arrange the content of 4 to 6 units of its course to the end of best subserving local needs, and that the university should accept for entrance such units of this work as have been well organized and well taught, even though the subject matter is not traditional.[4]

This principle of unrestricted election was definitely recognized and its adoption hastened by the report of committee on college entrance requirements of the National Education Association in 1911. The recommendation of this committee may be summed up as follows:

| | |
|---|---|
| Required units | 9 (English 3, foreign language 2, mathematics 2, social science 1, natural science 1). |
| Elective units | 2 ("two additional academic units"). |
| Free units | 4. |

Regarding the free units the committee reported:

> The other four units should be left as a margin to be used for additional academic work or for mechanic arts, household science, commercial work, and any other kind of work that the best interests of the students appear to require.
>
> No limitation should be imposed upon the use of the margin except that the instruction should be given by competent teachers with suitable equipment in classes not too large and that the students' work be of satisfactory grade.
>
> The recommendation that the subjects from which the margin may be made up should be left entirely unspecified appears to be vital to the progressive development of secondary education. As long as formal recognition must be sought for each new subject, so long will the high school be subservient and not fully progressive. It ought to be possible for any strong high school at

[3] It would be very difficult to show the increases in both restricted and unrestricted election in the same table, because some colleges allow both, and this would mean that there would be duplication. It would also suggest that some weighting or equating of the two would be desirable.

[4] Proc. of Nat. Educ. Assoc., 1909, p. 207.

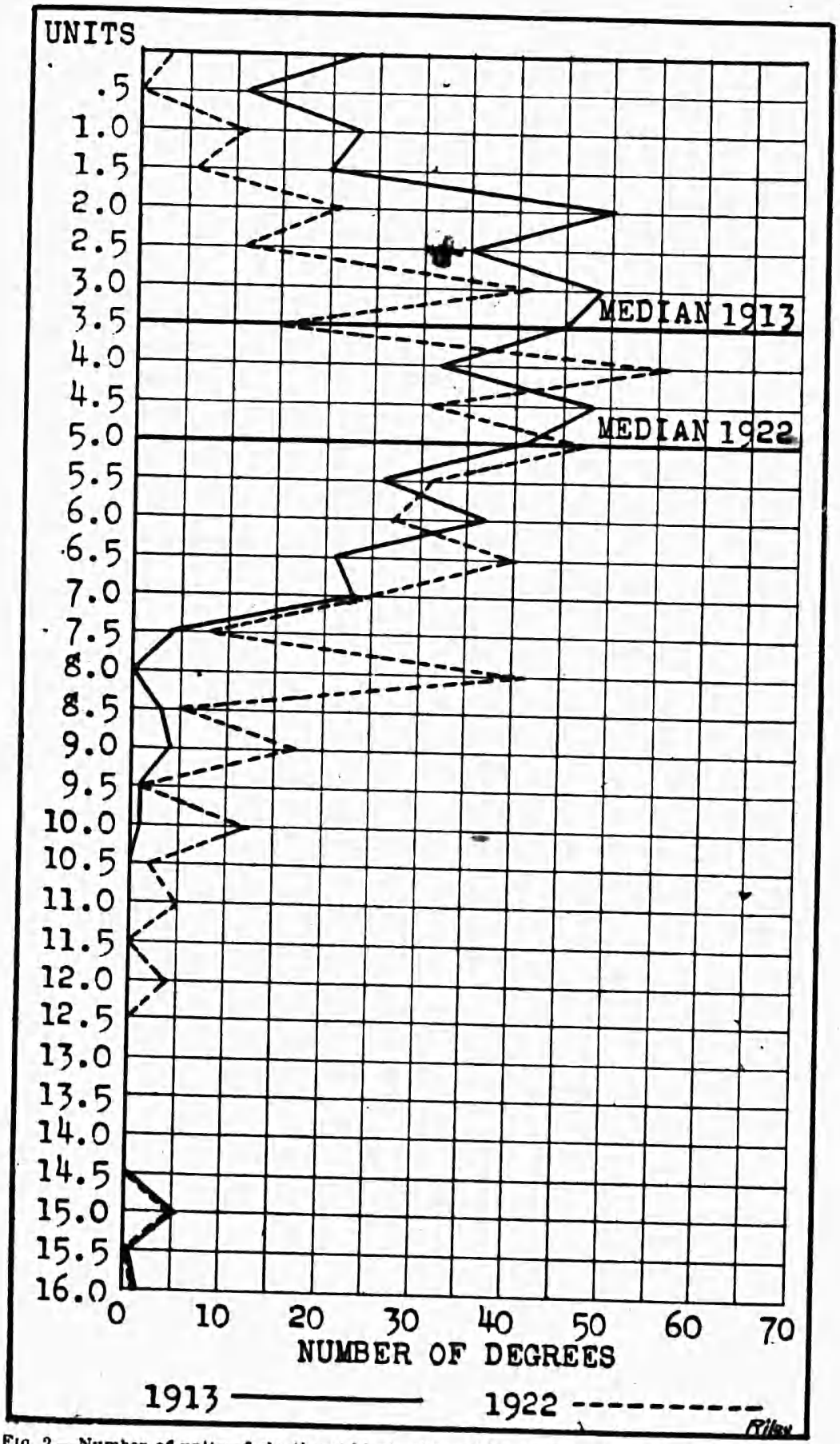


FIG. 2.—Number of units of elective subjects allowed for entrance to college and frequency of each amount for the years 1913 and 1922, all degrees being considered

any time to introduce into its curriculum a subject that either meets the peculiar needs of the community or that appears to be the most appropriate vehicle for teachers of pronounced individuality.

This margin of four units is not excessive. It amounts to an average of only one unit a year. A course containing 11 units of academic or prepared work requires the student to carry, practically throughout the course, three of these subjects at a time. In general this involves the preparation of three lessons a day outside of the classroom. A daily assignment of more than three classes, together with manual training, or vocational work, in school hours, is not conducive to a high standard of excellence. In many of our high schools girls, especially, are subjected to a scholastic routine not designed to develop a strong race either physically or mentally.[1]

The extent to which free margin has been adopted by the colleges since 1913 is shown in Table 56:

TABLE 56.—*Number of degrees allowing unrestricted election in entrance requirements for the period 1913-1922, all degrees being considered*

| Degrees | Number of degrees allowing unrestricted election in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| Number of degrees allowing unrestricted election | 63 | 70 | 82 | 84 | 91 | 103 | 110 | 120 | 130 | 140 |
| Per cent | 11 | 13 | 15 | 16 | 17 | 19 | 21 | 23 | 25 | 27 |
| Number of degrees not allowing unrestricted election | 479 | 467 | 456 | 453 | 443 | 432 | 417 | 408 | 392 | 380 |
| Per cent | 89 | 87 | 85 | 84 | 83 | 81 | 79 | 77 | 75 | 73 |

It will be seen from Table 56 that the number of degrees allowing unrestricted election has increased from 11 to 27 per cent of the total number of degrees during the decade.

Table 57 shows the distribution of the degrees according to the number of units of unrestricted election they allow:

TABLE 57.—*Number of units of unrestricted election allowed for entrance to college and frequency of each range, all degrees being considered*

| Number of units | Number and per cent of degrees allowing unrestricted election in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 1 to 3 | 24 | 24 | 26 | 25 | 29 | 32 | 34 | 36 | 42 | 45 |
| Per cent | 38 | 34 | 32 | 30 | 31 | 31 | 30 | 30 | 32 | 32 |
| 4 to 6 | 25 | 27 | 32 | 35 | 38 | 42 | 49 | 57 | 62 | 67 |
| Per cent | 40 | 39 | 39 | 42 | 41 | 41 | 45 | 48 | 48 | 48 |
| 7 to 9 | 2 | 5 | 9 | 9 | 11 | 12 | 11 | 11 | 10 | 11 |
| Per cent | 3 | 7 | 11 | 11 | 13 | 11 | 10 | 9 | 8 | 8 |
| 10 to 12 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 2 | 2 | 4 |
| Per cent | | | | | | 3 | 2 | 2 | 2 | 3 |
| 13 to 15 | 12 | 14 | 15 | 15 | 13 | 14 | 14 | 14 | 14 | 13 |
| Per cent | 19 | 20 | 18 | 18 | 16 | 13 | 13 | 11 | 11 | 9 |
| Total degrees | 63 | 70 | 82 | 84 | 91 | 103 | 110 | 120 | 130 | 140 |

[1] Report of the committee on college entrance requirements. Proc. Nat. Educ. Assoc., 1911, p. 568.

The amounts of unrestricted election allowed are fewer than 6 units in approximately four-fifths of the cases. This is because the colleges which allow a free margin usually require a certain number of prescribed units, say 4 to 8, allow restricted election of from 3 to 6 units, and permit unrestricted election of the remainder, or somewhere about 1 to 6 units. The 1 to 3 range nearly doubles during the period in number of degrees allowing it, but decreases in percentage of totals. The 4 to 6 range more than doubles in number of degrees and increases 8 per cent. The 7 to 9 and 10 to 12 ranges both increase not only in number of degrees but also in percentages. The 13 to 15 range remains the same in number of degrees, but decreases 10 per cent when the total number of degrees is considered.

The question will arise as to which degree has the more flexible entrance requirements, the A. B. or the B. S. Tables 58 to 60 show comparisons of the two degrees in percentages of totals which require or allow the various ranges of units.

TABLE 58.—*A comparison of the A. B. and B. S. degrees in amounts of prescribed units required for entrance, the figures being per cents*

| Number of units | Degree | Per cent of degrees requiring prescribed units in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| None | A. B. | 4 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 |
| | B. S. | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| 1 to 3 | A. B. | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 2 | 2 |
| | B. S. | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 2 | 2 | 1 |
| 4 to 6 | A. B. | 2 | 3 | 3 | 4 | 5 | 5 | 5 | 7 | 9 | 10 |
| | B. S. | 4 | 3 | 4 | 4 | 6 | 5 | 7 | 9 | 10 | 12 |
| 7 to 9 | A. B. | 12 | 20 | 23 | 26 | 29 | 29 | 31 | 34 | 34 | 35 |
| | B. S. | 23 | 25 | 30 | 32 | 32 | 34 | 34 | 37 | 37 | 38 |
| 10 to 12 | A. B. | 50 | 50 | 46 | 43 | 43 | 43 | 41 | 38 | 37 | 37 |
| | B. S. | 56 | 55 | 50 | 49 | 47 | 47 | 46 | 42 | 41 | 40 |
| 13 to 15 | A. B. | 27 | 23 | 24 | 22 | 20 | 19 | 17 | 15 | 15 | 13 |
| | B. S. | 14 | 14 | 12 | 11 | 10 | 9 | 8 | 8 | 7 | 6 |

Table 58 shows that the A. B. degrees make slightly greater requirements in prescribed amounts of subjects than the B. S. degrees do. The B. S. degrees require slightly more of the 0 to 12 ranges of prescribed amounts, but twice as many A. B. degrees require the 13 to 15 range. The latter range, however, shows relatively few degrees in either instance.

Table 59 shows, what might be expected, that the B. S. degrees allow more election than the A. B. degrees do. In 1913 55 per cent of the A. B. degrees allowed election of from 6 to 12 units, while

at the same time 71 per cent of the B. S. degrees allowed election in the same range. In 1922 75 per cent of the A. B. degrees allowed election in this range, while 87 per cent of the B. S. degrees allowed it. Thus, although the B. S. degrees allow a somewhat greater freedom of choice, the A. B. degrees have changed more rapidly toward greater election during the period. This is reasonable, since they had more room to change in.

TABLE 59.—*A comparison of the A. B. and B. S. degrees in amounts of elective units allowed for entrance, the figures being per cents*

| Number of units | Degree | Per cent of degrees allowing elective units in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| None | A. B. | 6 | 5 | 4 | 4 | 3 | 3 | 3 | 2 | 2 | 1 |
| | B. S. | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 0 |
| 1 to 3 | A. B. | 38 | 39 | 37 | 34 | 30 | 30 | 31 | 27 | 28 | 24 |
| | B. S. | 26 | 27 | 24 | 24 | 22 | 20 | 18 | 17 | 14 | 13 |
| 4 to 6 | A. B. | 41 | 46 | 45 | 48 | 51 | 49 | 47 | 48 | 42 | 43 |
| | B. S. | 57 | 57 | 57 | 61 | 62 | 61 | 58 | 55 | 55 | 55 |
| 7 to 9 | A. B. | 12 | 11 | 12 | 13 | 13 | 14 | 16 | 21 | 23 | 25 |
| | B. S. | 12 | 12 | 14 | 10 | 11 | 13 | 17 | 21 | 24 | 24 |
| 10 to 12 | A. B. | 1 | 1 | 1 | 0 | 1 | 2 | 2 | 3 | 3 | 6 |
| | B. S. | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 6 |
| 13 to 15 | A. B. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | B. S. | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

Table 60 shows a comparison of the percentages of the A. B. and B. S. degrees which allow free margin:

TABLE 60.—*A comparison of the A. B. and B. S. degrees in per cents which allow unrestricted election to any extent*

| Degree | Per cent of degrees allowing unrestricted election in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| A. B. | 12 | 13 | 16 | 16 | 18 | 20 | 21 | 23 | 26 | 27 |
| B. S. | 9 | 11 | 14 | 15 | 17 | 19 | 21 | 23 | 23 | 26 |

In general a slightly larger percentage (a total average of about 2 per cent) of the A. B. degrees allow free margin than of the B. S., although generally speaking there is no material difference.

Table 61 shows a comparison of the percentages of the A. B. and B. S. degrees allowing the various ranges of free margin.

TABLE 61.—*A comparison of the A. B. and B. S. degrees in amounts of unrestricted election allowed for entrance, the figures being per cents*

| Number of units | Degree | Percentage of degrees allowing unrestricted election in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 1 to 3 | A. B. | 39 | 33 | 30 | 31 | 32 | 31 | 28 | 30 | 30 | 31 |
| | B. S. | 32 | 31 | 31 | 28 | 31 | 31 | 32 | 31 | 34 | 33 |
| 4 to 6 | A. B. | 39 | 33 | 37 | 38 | 36 | 36 | 43 | 46 | 50 | 52 |
| | B. S. | 43 | 43 | 41 | 44 | 45 | 45 | 46 | 48 | 47 | 47 |
| 7 to 9 | A. B. | 0 | 10 | 14 | 14 | 16 | 14 | 13 | 9 | 7 | 6 |
| | B. S. | 3 | 5 | 8 | 8 | 9 | 8 | 6 | 7 | 6 | 7 |
| 10 to 12 | A. B. | 0 | 0 | 0 | 0 | 0 | 5 | 3 | 2 | 2 | 4 |
| | B. S. | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 2 |
| 13 to 15 | A. B. | 22 | 24 | 19 | 17 | 16 | 14 | 13 | 12 | 11 | 8 |
| | B. S. | 22 | 21 | 20 | 20 | 14 | 14 | 14 | 13 | 13 | 11 |

Table 61 shows that, on the whole, there is practically no difference between the A. B. and B. S. degrees in amounts of unrestricted election allowed for entrance.

## CONDITIONAL ENTRANCE TO COLLEGE

"Entrance conditions serve no educational purpose. They merely bring confusion upon the examiner, distract the freshman in his regular work, alarm his parents, and provide grist for the tutoring mills."[6] This pithy statement sums up a common present attitude toward entrance conditions so far as the ideal to be sought is concerned. However, between the theory and practice of entrance conditions there is a considerable chasm. Although it is generally agreed that conditions are a handicap both to the student and the college, the actual administration of conditionless entrance has been a difficult problem.

In brief it may be said that there are two kinds of conditions: The first a mere shortage in the number of units which the applicant offers; and the second a lack in specific subjects which the college requires for entrance. The latter type of condition is the more important and the more troublesome. The mere lack of a number of units may be made up in one way or another without serious difficulty, although, of course, conditions of any sort are a handicap; but if the applicant finds himself admitted to the college with, say, two units of conditions, one in Latin and one in algebra, he finds himself in a serious situation. Many colleges, a majority, do not offer elementary courses or the equivalent of those in the high school;

[6] Corwin, Jour. of Col. Alumni, Jan. 1917, p. 304.

so the student thus conditioned must be tutored, must attend a neighboring high school, work the subjects up by himself, or in other ways remove the conditions in these specific subjects, while at the same time he is responsible for carrying a full load of college work. Even when the student is able to find suitable courses in the college or its preparatory department, if it has one, he is under a heavy handicap.

The question may well be asked, Why should a college accept conditioned students anyway? If it states its requirements, why should it not exact them? Several factors enter into the case which help to determine the policy of the colleges in this matter. In the first place, generally speaking, in the past the entrance requirements of the colleges have been set too high for the public high school. That is, they have been set higher than the average public high school could wholly meet. As was suggested in Chapter III, special fitting and preparatory schools, academies, etc., formerly bore a large part of the responsibility for furnishing college material before the high school and the college began to make overtures for mutual cooperation. As was pointed out in the above chapter, the college could, in meeting the high-school graduate, "lower its standard" by allowing more freedom of choice in entrance subjects or it could require the entire program and admit the applicant with conditions. The college was especially apt to do the latter if it was pressed for students or where some particularly good material was available for a little concession. The condition thus became commonly recognized, and the so-called "back door" of the college was opened.

Presidents' reports, publications of accrediting and standardizing bodies, and other material bearing on the articulation of secondary and higher education are full of lamentations and wailings over this evil, and many resolutions have been passed against it. Just to illustrate the extent to which it has been practiced by the colleges, it may be shown that more than half of the freshmen who were admitted to Harvard, Yale, Princeton, and Columbia in the autumn of 1907 had not met the entrance requirements. Many statistics could be offered to show the prevalence of this practice, but such a display is not necessary; such prevalence is common knowledge.

Of the 314 colleges of this study, 211 in their published announcements of 1913 made some mention of entrance conditions, and 232 were making reference to this matter by 1922. In other words, more than two-thirds of the 314 colleges took an attitude toward entrance conditions in published statements. This attitude is shown in Table 62, which presents the conditions allowed and the frequency of each amount for the colleges of the study which definitely mention conditions in any way:

TABLE 62.—*Number of units of entrance conditions allowed by the colleges and distribution of the colleges according to the amount of condition allowed*

| Number of units | Number and per cents of colleges allowing entrance conditions in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| Some [1] | 20 | 23 | 21 | 21 | 21 | 21 | 21 | 17 | 15 | 15 |
| Per cent | 9 | 11 | 10 | 10 | 10 | 10 | 10 | 8 | 7 | 6 |
| None | 8 | 9 | 15 | 20 | 30 | 35 | 42 | 57 | 75 | 92 |
| Per cent | 4 | 4 | 7 | 9 | 14 | 16 | 19 | 26 | 34 | 40 |
| 1 | 61 | 64 | 68 | 73 | 76 | 75 | 76 | 77 | 76 | 74 |
| Per cent | 29 | 30 | 31 | 34 | 35 | 34 | 34 | 35 | 34 | 32 |
| 1.5 | 12 | 11 | 8 | 8 | 7 | 7 | 5 | 4 | 5 | 5 |
| Per cent | 6 | 5 | 4 | 4 | 3 | 3 | 2 | 2 | 2 | 2 |
| 2 | 77 | 81 | 79 | 77 | 71 | 70 | 70 | 62 | 48 | 42 |
| Per cent | 36 | 38 | 37 | 36 | 32 | 32 | 32 | 28 | 22 | 18 |
| 2.5 | 7 | 5 | 5 | 5 | 6 | 6 | 3 | 3 | 2 | 3 |
| Per cent | 3 | 2 | 2 | 2 | 3 | 3 | 1 | 1 | 1 | 1 |
| 3 | 12 | 12 | 12 | 9 | 5 | 4 | 2 | 0 | 1 | 1 |
| Per cent | 6 | 6 | 6 | 4 | 2 | 2 | 1 | | | |
| 3.5 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 13 | 8 | 6 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| Per cent | 6 | 4 | 3 | 1 | | | | | | |
| Total colleges | 211 | 214 | 214 | 216 | 217 | 218 | 219 | 220 | 222 | 232 |

[1] This indicates that certain colleges allowed conditions but did not specifically state the amount.

A glance at this table will reveal a startling movement toward the diminution and disappearance of entrance conditions. In order to compare more easily the two years 1913 and 1922, the per cents for each of the amounts given in Table 62 above are shown below:

TABLE 63.—*Number of units of entrance conditions allowed by the colleges and distribution of the colleges according to the amount of condition allowed, for the years 1913 and 1922, the figures being per cents*

| Number of units | Per cent of colleges allowing in— | | Net change |
|---|---|---|---|
| | 1913 | 1922 | |
| Some | 9 | 6 | −3 |
| None | 4 | 40 | +36 |
| 1 | 29 | 32 | +3 |
| 1.5 | 6 | 2 | −4 |
| 2 | 36 | 18 | −18 |
| 2.5 | 3 | 1 | −2 |
| 3 | 6 | 1 | −5 |
| 3.5 | −1 | 0 | −1 |
| 4 | 6 | 0 | −6 |

The "some" row decreases 5 colleges, or 3 per cent, during the 10 years. In 1913 only 8 of the 211 colleges refused to recognize conditions. In 10 years this number had risen to 92, or from 4 to 40 per cent. The one-unit allowance increases slightly, due to the decreases in the allowances above one unit. Every amount above one unit decreases rapidly during the decade. The two-unit allowance decreases by half. In 1913, of the colleges which allowed conditions, 57 per cent allowed more than one unit, but in 1922 only

22 per cent allowed those amounts. Amounts above two units were allowed by 33 of the 211 colleges in 1913 and by only 4 of the 232 colleges in 1922.

Three causes may be suggested as being largely responsible for the movement toward abolishing entrance conditions. In the first place the general development of the high-school curriculum and the complementary relaxation in rigid entrance requirements, and the more mutual understanding and dependence of the colleges and secondary schools, have furnished a basis for this tightening up on conditions. In the second place such factors as the comprehensive examination, with its refusal to admit with conditions, has not only weeded out possible matriculates on condition, but also focused the attention of both the high school and the college on the subject of conditions as never before. The third, the most recent and perhaps the most direct and important reason, is to be found in the increased enrollments of the colleges and the necessity for limitation of numbers of students. That this is the largest direct element may be seen from the table.

In general there is a more or less tightening up on conditions up to 1919. Beginning with 1920, this tightening up ceases to be gradual; it comes with a jump. For instance, from 1919–20 the three-unit allowance dropped from 2 colleges to none, the two-unit allowance from 70 to 62, the 1.5-unit from 5 to 4, the one-unit allowance moved up from 76 to 77, the number of colleges allowing no conditions jumped from 42 to 57, and the "some" group decreased from 21 to 17 colleges. In a word, during the last three years of the period has occurred one-half of the total change of the entire 10 years. It will be remembered that the last three years have seen the greatest increase in college enrollments.

Conditions are absolved in a number of ways. Some colleges allow the student to take certain college courses without credit and apply these on his debt. The amount of college credit allowed for each unit of deficiency varies from two to six semester hours. In a number of instances the "faculty assumes no responsibility for the removal of conditions. This the student must do in his own way and at his own expense." Tutoring, summer session, academy classes, and other methods of removal are often suggested. The time allowed for canceling conditions varies with the amount of condition which the college allows. For two or more units the maximum time allowed is usually two years; for less than two units one year is usually specified. Frequently the time is expressed as, "as rapidly as possible" or "before being admitted to the sophomore class."

## FLEXIBILITY IN ENFORCEMENT OF PUBLISHED REQUIREMENTS

Do colleges exact their published requirements? For years this has been a delicate question in college circles, as the literature of college entrance requirements shows. As has been previously suggested, high entrance requirements look and sound well but are hard to enforce, and if a college is in need of students there is great temptation for it to admit an applicant even though he can not quite meet the standards set. No doubt there has been much irregularity in the admission of students in the past, but, on the other hand, it is possible that the real situation has been somewhat exaggerated, (1) on account of "college jealousy," particularly in the case of rival colleges and more especially where the rivals are situated in the same community, and (2) by the difference in the standards of the various colleges, and the attitude often taken by a college, after refusing admission to an applicant, toward another college which admitted this student.

The only accurate way to find out whether colleges exact their published requirements would be to study each student's record and compare it with the published requirements of the college. This has been done in a few instances for a limited number of colleges. Several of the accrediting agencies, such as the Association of Colleges and Secondary Schools of the Southern States and the Alabama Association of Colleges, require an annual record of admission credentials from each member college. Discrepancies are found, to be sure, but publicity is an important instrument in forcing the college to defend its honor, its standard.

In order to get a more recent basis for expression and because the above method is too cumbersome for the purposes of this section, a resort was made to the opinions and experience of specialists in this field. Over 400 opinions were gathered by correspondence and interview from presidents, deans, secretaries, registrars, officers of admission, and chairmen of admission committees of the various colleges and universities, from officers of State and other college associations, and from church college boards, and the various standardizing bodies.

While it might be held that these opinions would be naturally biased, on the other hand it can be held that none of them would likely be deliberately dishonest. Moreover, no individual was asked concerning the institution with which he was connected, but for practice in general. The opinions gathered indicate overwhelmingly that colleges in general exact their published requirements. A few quotations will express the general opinion.

**It is my opinion, based upon my acquaintance with registrars, that most of the high-grade institutions do follow their published entrance requirements.**

This would certainly be true, in my opinion, of the colleges on the approved list of the Association of American Universities. (RAYMOND WALTERS, former secretary of American Association of Collegiate Registrars.)

My experience is limited almost entirely to the method used in the eastern colleges for women, and it is my belief that the announced requirements are quite strictly enforced; in fact, selective methods are being used so extensively now that announced requirements are apt to represent the minimum. (SARA JACOBS, registrar of Wells College.)

Our fellow registrars are not very free to confess their sins along the line of breaking the rules laid down for them by their institutions. I have attended several meetings, both National and State, in recent years, and I am inclined to think that the registrars are living up more rigidly to their published rules than in former years. The exactions made by standardizing agencies have much to do with this. (CLIFF GUILD, registrar Illinois Wesleyan University.)

In answer to your letter I wish to say that I believe after somewhat careful reflection upon my own observations for the past 25 years of dealing with certificates of admission and certificates of advanced standing issued by other colleges and universities, in connection with this institution, that colleges pretty generally do follow rather strictly their exact published entrance requirements. (H. C. DORCAS, university examiner and registrar, State University of Iowa.)

As chairman of the entrance committee of this association (Alabama Association of Colleges) I have had unusual opportunities of examining into the admission of students to the colleges of our State, and rarely ever find it necessary to report any institution for failure to exact its published entrance requirements. (C. H. BARNWELL, dean, University of Alabama.)

We have to take for granted that all reputable institutions do so fully. (W. D. HOOPER, chairman of committee on entrance of Association of Colleges and Secondary Schools of the Southern States.)

Many other similar expressions might be quoted. Of the 400-odd opinions gathered, fewer than 15 were that colleges did not live up to their published requirements. In one-half of these at least the opinion was based on "hearsay," "sneaking suspicion," "rumor," etc. Nearly all of the adverse opinions had to do with the amounts of conditions allowed and the extension of time allowed for their removal. Dr. Thos. E. Steckel, of Ohio Wesleyan University, very clearly sums up the possible reasons for any lack of enforcement of entrance conditions as follows:

1. College catalogues are notoriously difficult to interpret. I believe college authorities themselves have trouble in this respect and may unintentionally fail to enforce a rule.

2. Published requirements are often behind actual practice. This arises from carelessness or from the fact that the catalogue is published but once a year.

3. Faculties sometimes vote for requirements which are found to be impossible when put into practice and are consequently modified by college officials until the rule can be corrected by the faculty.

4. Special cases may arise which seem to require a modification of the rule.

The net conclusion is that, while in former years there was undoubtedly a considerable lack of enforcement of entrance requirements, at the present time, and probably so for the future as long as present conditions exist, this problem is less and less important. Two main reasons may be suggested for this. In the first place entrance requirements of to-day are much more flexible in amount and variety of subjects, amount of election, etc. In the second place the necessity for limitation of enrollment in the college just reverses the condition of a few years ago when colleges competed for students. This means that, instead of making concessions in order to get students, the colleges are and will be forced to consider published requirements as a minimum, and from the many applicants who can offer these requirements the college will choose the best on the basis of quality, promise, etc.

## SUMMARY

Flexibility of entrance requirements may be increased by allowing more election to the applicant, both in subjects and amounts of subjects, by admitting with conditions, or by failing to exact the requirements as published.

The number of units required for entrance may be divided into prescribed, elective, and unrestricted elective groups.

Since 1913 there has been a decided trend away from requirements of the larger numbers of prescribed units toward the smaller. In 1913, 26 per cent of all the degrees studied required 9 units or less of prescribed work for entrance, while 51 per cent required these amounts in 1922.

The number of degrees allowing no election decreased from 23 in 1913 to 3 in 1922. In 1913, 40 per cent of the degrees allowed 3 units or less of election, while 21 per cent allowed these amounts in 1922. This means that there has been a considerable trend toward allowing more than 3 units of elective work. This trend is most marked from 1918 on.

An unrestricted elective allowance of four units was recommended by the committee on college entrance requirements of the National Education Association in 1911. In 1922 the median amount of free margin allowed by colleges allowing it at all was four units. The number of degrees allowing free margin increased from 63 (11 per cent) in 1913 to 140 (27 per cent) in 1922.

The requirements for entrance to the B. S. degree are slightly more flexible than those for th A. B. degree.

During the past 10 years there has been a startling movement toward diminution and abolishment of entrance conditions. In 1913,

of the 211 colleges making reference of any sort in their announcements to conditions, only 4 per cent refused to recognize them. In 1922, 40 per cent of the 232 colleges would not admit students with conditions. In 1913 conditions of more than 2 units were allowed by 33 of the 211 colleges, while in 1922 only 4 of 232 colleges allowed them. In 1922, 32 per cent of the 232 colleges allowed 1 unit of condition and 18 per cent allowed 2 units. Probably the greatest single direct factor responsible for this trend is the increased enrollments of the colleges.

Opinions from over 400 individuals acquainted with current practice indicate that colleges generally strictly exact their published entrance requirements. There has been some looseness in the past, but two factors have caused a decided tightening up on the practice of liberal interpretation of entrance requirements. The first factor is that the requirements of to-day are much more flexible both in subjects and amounts, so that there is little or no excuse for any applicant not being able to meet them. In the second place increased college enrollments have reversed the situation which was responsible for liberality of interpretation of college entrance requirements.

## CHAPTER VII

# A COMPARISON OF THE COLLEGES OF FIVE SECTIONS OF THE UNITED STATES IN THE VARIOUS PHASES OF COLLEGE ENTRANCE REQUIREMENTS

In an earlier day colleges were largely local institutions. The history of the earlier colleges (and many of the colleges which were established later, for that matter) shows how frequently a community would found a college and for years would be its entire support both in funds and students. As the country expanded, transportation developed, and the graduates of these colleges moved into new communities, the colleges became less local and partook more of the character of State or National institutions. Colleges in widely separated parts of the country came to copy one another's curricula and imitate each other's practices, and these together with the competition for students helped to develop these institutions into something more than the community might otherwise have been able to develop. Nevertheless, in spite of the fact that college curricula, life, and equipment throughout the country came to have many things in common, local needs, interests, and ambitions dominated, and still dominate to some extent, though immeasurably less than formerly, the college and its practices.

Perhaps no phase of college life is influenced by local demands as much as entrance requirements. On the one hand stands the college, whose heads probably have a wider vision of the college than as a merely local institution, and on the other hand stands the community, whose members are interested in the college largely from a local or family standpoint. Naturally the community which supports the college has some right to demand that its children be admitted. The net result in opinion is bound to be a compromise, and this compromise finds expression in not only the college but the preparatory schools of the community as well. To what extent and in what ways do college entrance requirements vary in the different parts of the United States? This is the topic to be discussed in this chapter.

Generally speaking, the United States is divided educationally, so far as articulation of secondary and higher institutions is con-

cerned, into five sections, as follows: (1) New England, (2) Middle States and Maryland, (3) Southern States, (4) North Central States, (5) Western States.

These sections are neither inclusive nor exclusive. For instance, California and Nevada belong to none of them, while Montana and Maryland each belong to two. However, for purposes of comparison they may be taken as a rough basis. A word of warning will be in order at this point. The comparisons of this chapter are not comparisons of the various associations, nor even of the college members of the various associations, since in a few instances an association will accredit a college in another section which the association of that section itself does not recognize. This is due, of course, to difference in standards of the associations concerned and does not necessarily mean that either association has higher standards than the other. The number of such instances is very small, but the possibility is mentioned that the reader may avoid the error of assuming that the comparisons are comparisons of the various standardizing agencies. Moreover, in one or two instances the classification of States is a purely arbitrary one of convenience and expedience. This is the case particularly with the far Western States. Where a State is a member of two associations, it must be arbitrarily classified in one and not the other.

The five sections as used in this study are composed of the several States as follows:

*New England:* Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.

*Middle States and Maryland:* Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania.

*Southern:* Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia, West Virginia.

*North Central:* Arizona, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, New Mexico, North Dakota, Ohio, Oklahoma, South Dakota, Wisconsin, Wyoming.

*Western:* California, Idaho, Nevada, Oregon, Utah, Washington.

The numbers of colleges and degrees vary both from year to year and from subject to subject. In general it may be said that this chapter presents data for over 300 colleges and over 500 degrees. The number of degrees or requirements studied is approximately the same for all subjects (i. e., in English some 500 degrees are considered, about the same number in science, foreign language, etc.), though slightly fewer in mathematics than in the other subjects. For 1913 the number of degrees or requirements considered are distributed as follows: Western, 34; New England, 39; Middle States, 116; Southern, 104; North Central, 249.

By 1922 the total numbers are somewhat less, but all percentages are computed on the basis of the number of degrees for each particular year. It will be noted that the number of degrees in the Western and New England sections are considerably smaller than those of the other sections. Percentages and other measures for these two sections are consequently not as reliable an index, especially if the dispersion is great, as in the case of the others, but some common numerical basis must be taken in order to show the differences. This warning may serve to explain rather sudden "jumps" in figures for these two sections, which might otherwise be puzzling.

There are many aspects of which comparisons might be made. It has been thought best to choose the most significant elements of college entrance requirements, amounts of prescribed subjects, and proportion of flexibility, and to compare these. Even in these studies the limitations of time and space demand that only the more important ones be discussed at length. It is needless to state that where there are practically no sectional differences, a short statement to that effect will suffice. The various academic requirements will be discussed first.

## ENGLISH

Generally speaking, there are no sectional differences in the amount of English required for entrance to college. As was suggested in Chapter IV, "English, three units," has become a staple in college entrance requirements, and 89 per cent of all the colleges and degrees studied require it in that amount. The 58 degrees which require other amounts, including 19 which require no English at all, are scattered about the country so that it may be said that no section is distinctive in the amount of English its colleges require for entrance.

## MATHEMATICS

As with the requirements in English, mathematics is required almost universally by colleges for admission, and the amounts are practically the same the country over. One unit of plane geometry is universally required where it is required at all. Algebra has decreased generally from 1.5 units to one unit by 1922. The number of colleges requiring solid geometry has also decreased. These decreases are more or less widespread. In general it may be said that the colleges in the Southern and Middle States and Maryland sections show slightly higher requirements in mathematics than do the colleges of the other sections, although practically speaking there are no differences.

## SOCIAL SCIENCE

Social science is required for entrance relatively more frequently by the colleges of New England than by the colleges of the other

sections. In general about four-fifths of the total New England degrees require social science for entrance, while only about two-thirds of the total degrees in the other sections require it. The Western section ranks slightly below the other three in this respect. The amount required is nearly always one unit. The 10 per cent or so (varying slightly during the decade) of degrees which require other amounts are not concentrated in any one section, so that the total percentages do not vary much from one section to another.

## SCIENCE

The colleges representing the various sections show a considerable diversity of practice with regard to a requirement in science. Table 64 shows the number and percentage of the several sections which require one unit of science for entrance to the A. B. degree:[1]

TABLE 64.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in number and per cents requiring one unit of science for entrance to the B. S. degree*

| Section | Number of colleges requiring in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| Western | 16 | 15 | 15 | 13 | 13 | 13 | 12 | 12 | 12 | 12 |
| Per cent | 76 | 75 | 77 | 77 | 77 | 77 | 71 | 71 | 71 | 71 |
| New England | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Per cent | 15 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 13 | 13 |
| Middle States and Maryland | 10 | 9 | 11 | 11 | 10 | 11 | 9 | 9 | 10 | 8 |
| Per cent | 16 | 15 | 18 | 18 | 17 | 18 | 15 | 15 | 16 | 13 |
| Southern | 15 | 15 | 17 | 16 | 17 | 16 | 16 | 16 | 16 | 13 |
| Per cent | 26 | 26 | 30 | 27 | 29 | 29 | 29 | 29 | 29 | 23 |
| North Central | 79 | 83 | 83 | 81 | 82 | 78 | 77 | 74 | 74 | 70 |
| Per cent | 59 | 61 | 61 | 59 | 59 | 56 | 55 | 53 | 52 | 50 |

In order to show more clearly the relative standing and also the net changes during the decade, the data from Table 64 for the years 1913 and 1922 are shown in Table 65:

TABLE 65.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in per cents requiring one unit of science for entrance to the A. B. degree, for the years 1913 and 1922*

| Section | Per cents of colleges requiring in— | | Net change |
|---|---|---|---|
| | 1913 | 1922 | |
| Western | 76 | 71 | −5 |
| North Central | 59 | 50 | −9 |
| Southern | 26 | 23 | −3 |
| Middle States and Maryland | 16 | 13 | −3 |
| New England | 15 | 13 | −2 |

[1] Where science is required, one unit is almost universally specified, only about 4 per cent of the A. B. degrees requiring any other amount.

It will be seen that there is little net change during the period, and what there is is a decrease. The small changes noticed are due to two causes, first, to the addition or subtraction of the subject, and second, to the changes in number of degrees. Except in the case of the North Central section, few changes occur during the period in the number of colleges requiring science for entrance, consequently almost the entire change may be laid to changes in the total number of degrees offered by the colleges. Table 66 shows the number and percentage of colleges which require science for entrance to the B. S. degree:

TABLE 66.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in number and per cents requiring one unit of science for entrance to the B. S. degree*

| Section | Number of colleges requiring science in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| Western | 7 | 7 | 4 | 3 | 3 | 3 | 3 | 2 | 2 | 2 |
| Per cent | 63 | 70 | 44 | 33 | 37 | 37 | 33 | 25 | 29 | 29 |
| New England | 8 | 8 | 8 | 9 | 10 | 10 | 10 | 10 | 10 | 10 |
| Per cent | 57 | 57 | 57 | 64 | 71 | 71 | 71 | 71 | 71 | 71 |
| Middle States and Maryland | 11 | 11 | 13 | 13 | 13 | 13 | 12 | 11 | 13 | 10 |
| Per cent | 26 | 26 | 30 | 32 | 32 | 33 | 32 | 27 | 34 | 27 |
| Southern | 11 | 12 | 14 | 15 | 17 | 16 | 15 | 14 | 14 | 11 |
| Per cent | 30 | 32 | 37 | 39 | 43 | 41 | 40 | 35 | 36 | 27 |
| North Central | 50 | 51 | 45 | 45 | 45 | 42 | 43 | 44 | 46 | 45 |
| Per cent | 60 | 58 | 51 | 54 | 53 | 50 | 53 | 54 | 56 | 56 |

As might be expected, more science is required for the B. S. degree than for the A. B. Table 67 shows the per cents of Table 66 for the years 1913 and 1922:

TABLE 67.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in per cents requiring one unit of science for entrance to the B. S. degree, for the years 1913 and 1922*

| Section | Per cents of colleges requiring in— | | Net change |
|---|---|---|---|
| | 1913 | 1922 | |
| Western | 63 | 29 | −34 |
| North Central | 60 | 56 | −4 |
| New England | 57 | 71 | +14 |
| Southern | 30 | 27 | −3 |
| Middle States and Maryland | 26 | 27 | +1 |

It will be seen that New England ranks close to the top in 1913 and at the top by a considerable margin in 1922, the Middle States and Maryland ranking lowest in both years. These two sections are also the only ones which show net increases during the period. On the whole there are no great changes in science requirements during the decade. This is as true of the A. B. as of the B. S. degree.

## FOREIGN LANGUAGE

It is popularly supposed that the eastern colleges require a larger amount of foreign language for entrance than the colleges of the Western or Central States do. It is also common knowledge that the whole question of foreign languages in entrance requirements is in a very unsettled state. More changes have been made in the foreign-language requirements during the past 10 years than in all of the other required subjects combined. Here especially do the colleges of the several sections vary.

Table 68 shows a comparison of the five sections in percentage of degrees which require Latin in any amount for entrance to the A. B. degree:

TABLE 68.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in per cents of degrees requiring Latin for entrance to the A. B. degree*

| Section | Per cents of degrees requiring Latin in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| Western | 33 | 30 | 20 | 11 | 6 | 6 | 6 | 6 | 6 | 6 |
| New England | 75 | 72 | 72 | 77 | 71 | 71 | 77 | 64 | 62 | 62 |
| Middle States and Maryland | 82 | 80 | 75 | 75 | 75 | 73 | 71 | 66 | 59 | 54 |
| Southern | 76 | 76 | 79 | 75 | 75 | 71 | 67 | 60 | 55 | 51 |
| North Central | 37 | 33 | 29 | 25 | 22 | 21 | 21 | 20 | 19 | 20 |

It will be seen from Table 68 that in 1913 a larger percentage of the colleges of the Middle States and Maryland required Latin than did the colleges of the other sections, while the Western section ranks lowest in the list, slightly below the North Central. The Southern and New England sections are about equal in percentage of colleges which require Latin for entrance. All sections show steady decreases from 1913 to 1922. Table 69 shows the percentages of Table 68 for the years 1913 and 1922:

TABLE 69.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in per cents of degrees requiring Latin for entrance to the A. B. degree, for the years 1913 and 1922*

| Section | Per cents of degrees requiring Latin in— | | Net change |
|---|---|---|---|
| | 1913 | 1922 | |
| Middle States and Maryland | 82 | 54 | −28 |
| Southern | 76 | 51 | −25 |
| New England | 75 | 62 | −13 |
| North Central | 37 | 20 | −17 |
| Western | 33 | 6 | −27 |

It is interesting to note that both in 1913 and 1922 the percentages for New England, Southern States, and Middle States and Maryland are more than twice as large as those of the North Central and Western sections.

Table 70 shows the amounts of Latin required for entrance to the A. B. degree by the colleges of the various sections. The percentages are percentages of those degrees in each territory which require Latin and not the percentages of the total number of degrees in those sections.

TABLE 70.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in per cents of the various amounts of Latin required for entrance to the A. B. degree, for the years 1913 and 1922*

| Units of Latin | Section | Per cents of degrees requiring in— | | Net change |
|---|---|---|---|---|
| | | 1913 | 1922 | |
| 2 | Western | 43 | 0 | −43 |
| | New England | 0 | 0 | 0 |
| | Middle States and Maryland | 12 | 9 | −3 |
| | Southern | 9 | 14 | +5 |
| | North Central | 23 | 43 | +20 |
| 3 | Western | 14 | 0 | −14 |
| | New England | 23 | 40 | +17 |
| | Middle States and Maryland | 8 | 24 | +16 |
| | Southern | 40 | 41 | +1 |
| | North Central | 10 | 11 | +1 |
| 4 | Western | 43 | [1] 100 | +57 |
| | New England | 77 | 60 | −17 |
| | Middle States and Maryland | 80 | 68 | −12 |
| | Southern | 51 | 45 | −6 |
| | North Central | 66 | 46 | −20 |

[1] One requirement only.

Table 70 shows that of those colleges which require Latin at all the majority require four units. A larger percentage of the colleges of New England and the Middle States and Maryland require four units than do the colleges of any other section. The three-unit requirement is a popular one in the South also. This amount was more popular in New England in 1922 than in 1913. The two-unit amount in the North Central section increases from 23 per cent in 1913 to 43 per cent in 1922 and is barely behind the four unit in popularity.

Table 71 shows a comparison of the sections in percentage of total A. B. degrees which require unspecified foreign language for entrance to the A. B. degree:[2]

[2] As was explained before, where a college requires "foreign language" or "modern language," such a requirement is classified as "unspecified."

TABLE 71.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in per cents of total A. B. degrees requiring unspecified foreign language for entrance to the A. B. degree*

| Section | Per cents of total A. B. degrees requiring foreign language in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| Western | 62 | 55 | 70 | 77 | 70 | 70 | 70 | 65 | 53 | 53 |
| New England | 51 | 55 | 52 | 55 | 54 | 54 | 54 | 54 | 66 | 66 |
| Middle States and Maryland | 44 | 43 | 46 | 50 | 50 | 55 | 54 | 57 | 56 | 55 |
| Southern | 54 | 52 | 52 | 46 | 45 | 44 | 40 | 49 | 50 | 45 |
| North Central | 66 | 68 | 66 | 65 | 64 | 61 | 57 | 54 | 55 | 54 |

It will be noted that, in general, the ranking of the five sections according to percentage of A. B. degrees which require unspecified foreign language is just the reverse of that in the case of the percentages of the A. B. degrees requiring Latin for entrance. The North Central and Western sections rank at the top in point of percentages in 1913, while New England and the Middle States and Maryland rank lowest. However, in 1922 the New England and Middle States and Maryland sections rank at the top with the others slightly below. Table 71 shows that both of these sections increased unspecified foreign-language requirements, while the other sections decreased them. The reason for this is found in the fact that, as the colleges of New England and the Middle States and Maryland decreased in Latin, they increased in foreign language. The catalogues show that very frequently a requirement of "Latin" became "foreign language (Latin preferred)" or just "foreign language." In the case of the other sections the usual custom was simply to omit the foreign languages.

Two units of unspecified foreign language is the most popular requirement in all sections, and 10 years have recorded little net change in this amount. As was noted in Chapter IV, very few colleges would accept one unit of foreign language unless it is in addition to a liberal amount of other languages. The number of degrees requiring three units of unspecified foreign language decreased in the Southern and North Central States, remained stationary in New England, and increased slightly in the Middle States and Maryland. The four-unit requirement increased in the Southern States during the period, but the number of degrees and the increase are small, 4 to 8 degrees.

It will be remembered that Latin is rarely required for entrance to the B. S. degree. The usual requirement for the B. S. degree where a language is required is merely foreign language or modern language. A very few degrees specify French or German. Table

72 shows a comparison of the various sections in percentages of total B. S. degrees which require unspecified foreign language for entrance:

TABLE 72.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in per cents of total B. S. degrees requiring unspecified foreign language for entrance to the B. S. degree*

| Section | Per cents of total B. S. degrees requiring in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| Western | 90 | 90 | 88 | 88 | 75 | 75 | 64 | 75 | 71 | 71 |
| New England | 66 | 66 | 64 | 71 | 71 | 71 | 71 | 64 | 64 | 64 |
| Middle States and Maryland | 83 | 82 | 79 | 80 | 86 | 84 | 86 | 84 | 82 | 80 |
| Southern | 75 | 72 | 78 | 73 | 67 | 66 | 66 | 60 | 61 | 59 |
| North Central | 72 | 68 | 69 | 73 | 70 | 70 | 64 | 62 | 60 | 61 |

Table 72 shows that so far as unspecified foreign-language requirements for the B. S. degree are concerned, about the same proportion of colleges require it in all sections of the country, there being no great differences as there were in the case of Latin for the A. B. degree. All of the sections show a decrease in the percentage of degrees which require foreign language for entrance.

Table 73 shows a comparison of the five sections in number of foreign languages (not number of units) required for entrance, all degrees being considered together:

TABLE 73.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections, in per cents of degrees, in number of different foreign languages required for entrance, all degrees being considered*

| Number of languages | Section | Per cents of total degrees requiring in— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| 0 | Western | 11 | 19 | 19 | 21 | 29 | 31 | 33 | 35 | 40 | 44 |
| | New England | 2 | 2 | 4 | 4 | 4 | 7 | 7 | 7 | 7 | 10 |
| | Middle States and Maryland | 7 | 12 | 12 | 7 | 9 | 12 | 12 | 13 | 17 | 19 |
| | Southern | 13 | 13 | 11 | 14 | 14 | 18 | 16 | 22 | 21 | 23 |
| | North Central | 15 | 17 | 19 | 19 | 23 | 24 | 26 | 34 | 37 | 39 |
| 1 | Western | 59 | 56 | 56 | 66 | 56 | 54 | 52 | 54 | 48 | 48 |
| | New England | 52 | 52 | 50 | 54 | 52 | 53 | 53 | 53 | 50 | 52 |
| | Middle States and Maryland | 35 | 32 | 32 | 34 | 36 | 38 | 39 | 40 | 41 | 41 |
| | Southern | 56 | 57 | 61 | 64 | 65 | 64 | 70 | 67 | 69 | 68 |
| | North Central | 67 | 69 | 69 | 68 | 67 | 67 | 62 | 59 | 59 | 57 |
| 2 | Western | 27 | 25 | 25 | 14 | 14 | 15 | 14 | 11 | 8 | 8 |
| | New England | 46 | 45 | 45 | 42 | 41 | 40 | 40 | 40 | 39 | 36 |
| | Middle States and Maryland | 56 | 54 | 54 | 55 | 51 | 47 | 46 | 43 | 39 | 36 |
| | Southern | 31 | 29 | 27 | 22 | 20 | 17 | 12 | 10 | 10 | 8 |
| | North Central | 18 | 14 | 12 | 12 | 10 | 10 | 9 | 7 | 3 | 5 |
| 3 | Western | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | New England | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Middle States and Maryland | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| | Southern | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | North Central | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

In order to show more clearly the net changes shown in Table 73, the percentages for the years 1913 and 1922 for the various standards are shown in Tables 74 to 76:

TABLE 74.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in per cents of degrees requiring no foreign language for entrance, for the years 1913 and 1922, all degrees being considered*

| Section | Per cents of total degrees requiring in— | | Net change |
|---|---|---|---|
| | 1913 | 1922 | |
| North Central | 15 | 39 | +24 |
| Southern | 13 | 23 | +10 |
| Western | 11 | 44 | +33 |
| Middle States and Maryland | 7 | 19 | +12 |
| New England | 2 | 10 | +8 |

All sections show increases in percentage of degrees which require no foreign language for entrance, the increases in New England, the Middle States and Maryland, and the Southern States being relatively small, while those of the North Central and Western sections are considerable. In 1922 the territories are ranked the same as in 1913 except that the Western moves to the top and pushes the North Central and Southern sections down one place.

Table 75 shows the ranking and percentages for the degrees requiring one foreign language for entrance:

TABLE 75.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in per cents of degrees requiring one foreign language for entrance, for the years 1913 and 1922, all degrees being considered*

| Section | Per cents of total degrees requiring in— | | Net change |
|---|---|---|---|
| | 1913 | 1922 | |
| North Central | 67 | 57 | −10 |
| Western | 59 | 48 | −11 |
| Southern | 56 | 68 | +12 |
| New England | 52 | 52 | 0 |
| Middle States and Maryland | 35 | 40 | +5 |

In the one-language requirement the Western and North Central sections rank highest in 1913, but both decrease by 1922 and are somewhat displaced by New England and the Southern section. The causes for these changes will be explained in connection with Table 76, which shows the figures for the requirement of two different foreign languages:

TABLE 76.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in per cents of degrees requiring two foreign languages for entrance, for the years 1913 and 1922, all grees being considered*

| Section | Per cents of total degrees requiring in— | | Net change |
|---|---|---|---|
| | 1913 | 1922 | |
| Middle States and Maryland | 56 | 36 | −20 |
| New England | 46 | 36 | −10 |
| Southern | 31 | 8 | −23 |
| Western | 27 | 8 | −19 |
| North Central | 18 | 5 | −13 |

Table 76, together with the one from which the percentages were derived, shows that most of the two-language colleges are in New England and the Middle States and Maryland. At the beginning of the period these two sections rank considerably above the others. At the end of the period they are tied at 35 per cent each, while the other three sections show only 8, 8, and 5 per cent. The net decrease is largest in the Middle States and Maryland and least in New England. This may be explained by Tables 75 and 76, and the data from the colleges represented as follows. The Western and North Central sections dropped two languages entirely very frequently during the period, while the colleges of the other sections more frequently dropped from two languages to one, thus increasing the one-language totals as shown by the tables.

In brief, the colleges of the New England and Middle States and Maryland require relatively more foreign language, both in amounts and in number of different languages, than do the colleges in the other three sections.

## FLEXIBILITY IN NUMBER OF PRESCRIBED AND ELECTIVE UNITS

What is the ratio of the number of prescribed units to the number of elective units which the colleges of the various sections require for entrance? It has been shown that nearly all colleges are now requiring 15 units for entrance. A few require 14.5 and a few 16. The number of these colleges is so small, however, that 15 units may be taken as the basis for any ratios. As was stated before, the number of units a college requires for admission may be divided into prescribed, elective, and free units. There is great diversity of practice concerning the amounts and combinations of these one, two, or three factors. This section will compare the five sections of the country in amounts of prescribed, elective, and free units.

Table 77 shows the percentage of the degrees in the five sections which require the various amounts of prescribed units:

TABLE 77.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections, in per cent of degrees requiring the various ranges of prescribed units for entrance, all degrees being considered*

| Number of units | Section | Per cent of degrees requiring in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| None | Western | 9 | 9 | 10 | 11 | 12 | 12 | 12 | 16 | 16 | 16 |
| | New England | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 |
| | Middle States and Maryland | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 |
| | Southern | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | North Central | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| to 3 | Western | 9 | 10 | 11 | 12 | 12 | 12 | 12 | 12 | 12 | 8 |
| | New England | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Middle States and Maryland | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 3 | 3 | 4 |
| | Southern | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | North Central | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 |
| 4 to 6 | Western | 0 | 0 | 0 | 4 | 10 | 8 | 8 | 8 | 14 | 17 |
| | New England | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| | Middle States and Maryland | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 4 | 6 |
| | Southern | 7 | 2 | 2 | 4 | 4 | 6 | 6 | 9 | 11 | 13 |
| | North Central | 2 | 9 | 9 | 6 | 8 | 7 | 9 | 10 | 10 | 11 |
| 7 to 9 | Western | 30 | 31 | 33 | 41 | 44 | 48 | 46 | 42 | 33 | 33 |
| | New England | 17 | 17 | 26 | 26 | 28 | 29 | 31 | 32 | 40 | 45 |
| | Middle States and Maryland | 7 | 7 | 13 | 15 | 15 | 15 | 18 | 26 | 21 | 22 |
| | Southern | 14 | 20 | 20 | 19 | 16 | 17 | 20 | 21 | 21 | 25 |
| | North Central | 29 | 24 | 31 | 36 | 39 | 40 | 42 | 46 | 47 | 47 |
| 10 to 12 | Western | 36 | 34 | 30 | 22 | 12 | 12 | 12 | 21 | 21 | 21 |
| | New England | 45 | 45 | 41 | 41 | 42 | 42 | 46 | 42 | 35 | 35 |
| | Middle States and Maryland | 53 | 53 | 46 | 39 | 41 | 40 | 40 | 34 | 40 | 42 |
| | Southern | 55 | 55 | 57 | 65 | 68 | 70 | 66 | 63 | 64 | 57 |
| | North Central | 52 | 52 | 47 | 44 | 42 | 40 | 38 | 32 | 31 | 29 |
| 13 to 15 | Western | 15 | 16 | 16 | 11 | 11 | 8 | 8 | 4 | 4 | 4 |
| | New England | 34 | 34 | 31 | 30 | 29 | 31 | 22 | 22 | 20 | 17 |
| | Middle States and Maryland | 38 | 38 | 38 | 42 | 41 | 39 | 37 | 34 | 32 | 26 |
| | Southern | 25 | 21 | 21 | 14 | 12 | 8 | 8 | 6 | 6 | 6 |
| | North Central | 13 | 10 | 10 | 8 | 6 | 6 | 5 | 5 | 6 | 7 |

There are a great many different angles from which Table 77 might be discussed, but a brief summary will be all that will be attempted here. In general it may be said that the Western section ranks highest in percentage of colleges or degrees which make no definite prescriptions at all, while the Southern section ranks lowest in this respect. The North Central as usual ranks next to its Western neighbor.

In the 1 to 3 unit range the Western section again ranks first. The 1 to 3 unit prescription is not a popular range. Colleges which prescribe only English for entrance make up the bulk of this group.

In the 4 to 6 range the Southern is ahead in 1913, but by 1922 the Western is ahead, with the Southern and North Central closely behind. All sections show increases in this range during the period. In this range the requirements are usually English and mathematics.

The 7 to 9 unit range shows some interesting trends. The Western section remains at about the same percentage during the period, one-third of its degrees making this requirement. The New England section increases from 17 to 45, an increase of 28 points. The Middle States and Maryland section increases 15, the Southern 11, and the North Central 18 points. Thus the New England section changes most during the decade. In 1922 approximately one-half of the degrees in New England and the North Central States required 7 to 9 prescribed units for entrance, about one-third of the Western degrees, and one-fourth of those in the Southern and Middle States and Maryland sections. This range shows decreases in every section.

With the exception of the Southern, every section shows decreases in the 10 to 12 unit range. The Western decreases 15 points, New England 10, the Middle States and Maryland 11, the Southern remains about the same, while the North Central shows the greatest change, 23 points.

In the 13 to 15 unit range every section shows a decrease during the period, the decreases being: Western 11, New England 7, Middle States and Maryland 12, Southern 9, and North Central 6 points. In 1913 one-third of the New England degrees made requirements of prescribed units within this range, but in 1922 only one-sixth made such a requirement. The Middle States and Maryland dropped from about one-third to one-fourth, while the Southern dropped from one-fifth to one-sixteenth.

In brief, the proportions of percentages and the changes made during the decade may be summarized as follows:

Graph III shows the data from Table 78 for the five sections for the years 1913 and 1922:

This graph shows clearly the shifting from high prescriptions to those lower in amount.

Table 79 shows the medians of the number of prescribed units required for entrance by the colleges of the various sections:

TABLE 78.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in per cents of degrees requiring nine units or less of prescribed subjects for entrance, for the years 1913 and 1922, all degrees being considered*

| Section | Per cents of degrees requiring in— | | Net change |
|---|---|---|---|
| | 1913 | 1922 | |
| Western | 48 | 74 | +26 |
| New England | 20 | 49 | +29 |
| Middle States and Maryland | 10 | 30 | +20 |
| Southern | 21 | 38 | +17 |
| North Central | 36 | 64 | +28 |

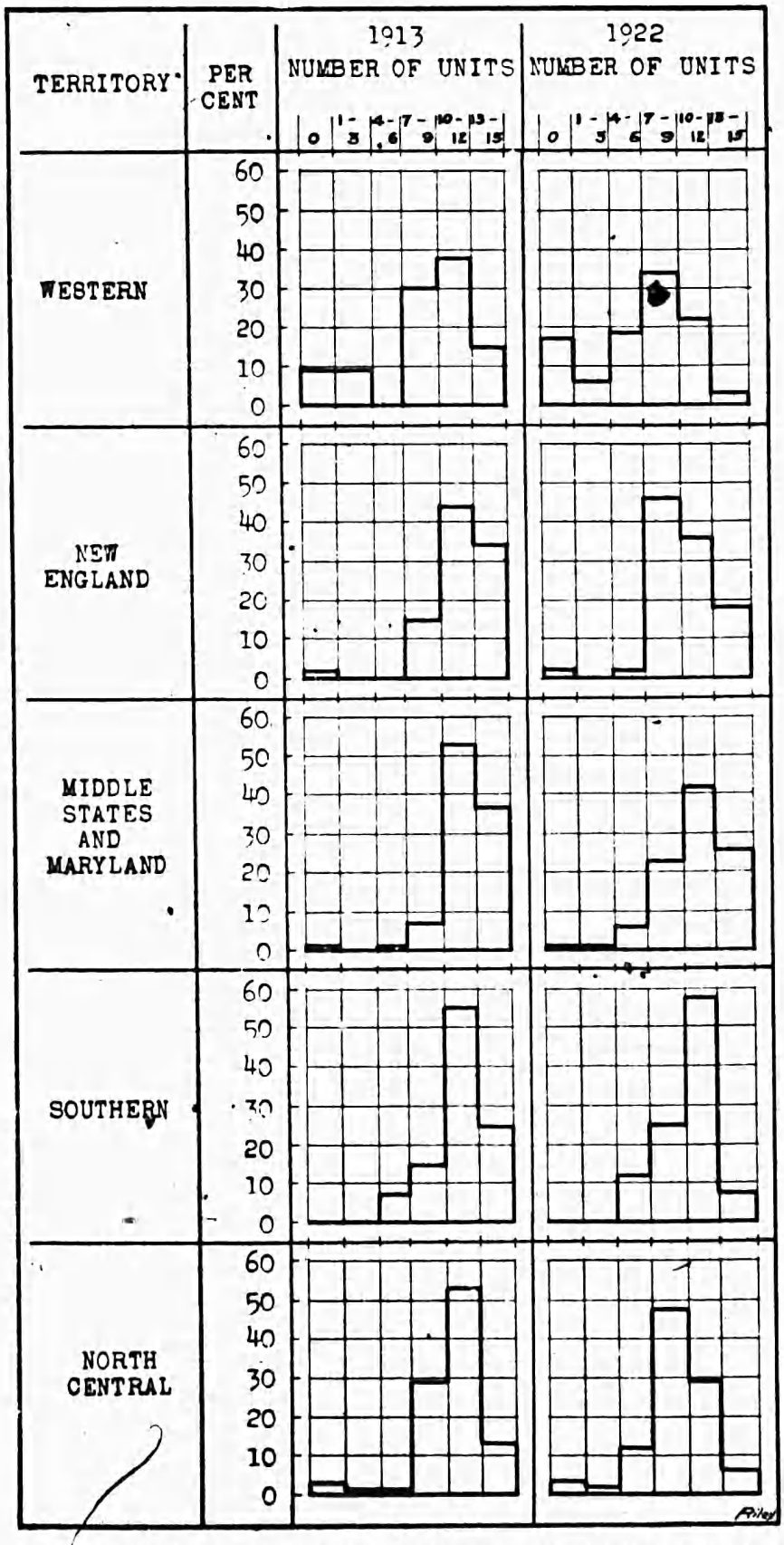


FIG. 3.—A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in percentage of degrees requiring the various ranges of prescribed units for entrance, all degrees being considered

TABLE 79.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in medians of prescribed units required for entrance to college, all degrees being considered*

| Section | Medians of prescribed units in— | |
|---|---|---|
| | 1913 | 1922 |
| Western | 9.5 | 8.0 |
| New England | 11.0 | 9.5 |
| Middle States and Maryland | 11.5 | 10.5 |
| Southern | 11.0 | 9.0 |
| North Central | 10.5 | 9.0 |
| General median [1] | 10.5 | 9.0 |

[1] Median of total group; not an average of the above medians.

Table 79 shows that the medians of the Western section are lowest and those of the Middle States and Maryland highest in both years. It will be noticed that three of the sections decrease 1.5 units and the other two decrease 1 unit.

Table 80 shows the percentage of degrees representing the various sections which allow the various ranges of election in entrance subjects:

TABLE 80.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in per cents of degrees which allow the various ranges of election for entrance, all degrees being considered*

| Number of units | Section | Per cents of degrees allowing in the year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| None | Western | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | New England | 5 | 5 | 5 | 5 | 2 | 2 | 2 | 2 | 2 | 0 |
| | Middle States and Maryland | 8 | 5 | 11 | 8 | 8 | 8 | 7 | 7 | 6 | 2 |
| | Southern | 8 | 5 | 2 | 3 | 3 | 0 | 0 | 0 | 0 | 0 |
| | North Central | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 1 to 3 | Western | 25 | 30 | 42 | 23 | 24 | 35 | 26 | 25 | 27 | 25 |
| | New England | 39 | 39 | 30 | 33 | 35 | 38 | 34 | 38 | 36 | 32 |
| | Middle States and Maryland | 57 | 60 | 56 | 54 | 50 | 45 | 46 | 37 | 36 | 33 |
| | Southern | 37 | 41 | 37 | 37 | 30 | 19 | 18 | 17 | 14 | 13 |
| | North Central | 27 | 40 | 20 | 18 | 20 | 21 | 17 | 17 | 15 | 15 |
| 4 to 6 | Western | 50 | 65 | 49 | 60 | 56 | 50 | 50 | 57 | 55 | 33 |
| | New England | 52 | 52 | 60 | 54 | 52 | 47 | 52 | 51 | 34 | 50 |
| | Middle States and Maryland | 29 | 28 | 29 | 31 | 35 | 36 | 38 | 40 | 40 | 43 |
| | Southern | 40 | 42 | 47 | 50 | 55 | 65 | 64 | 59 | 59 | 54 |
| | North Central | 53 | 58 | 58 | 61 | 60 | 57 | 54 | 50 | 50 | 46 |
| 7 to 9 | Western | 24 | 4 | 10 | 16 | 20 | 15 | 13 | 17 | 18 | 25 |
| | New England | 3 | 3 | 3 | 6 | 8 | 10 | 9 | 10 | 17 | 18 |
| | Middle States and Maryland | 3 | 5 | 4 | 4 | 5 | 10 | 10 | 12 | 13 | 15 |
| | Southern | 15 | 13 | 14 | 10 | 10 | 11 | 14 | 18 | 21 | 25 |
| | North Central | 16 | 16 | 17 | 18 | 17 | 18 | 24 | 28 | 28 | 31 |
| 10 to 12 | Western | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| | New England | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Middle States and Maryland | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 5 |
| | Southern | 0 | 0 | 0 | 1 | 1 | 4 | 5 | 6 | 6 | 6 |
| | North Central | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 4 | 5 | 5 |
| 13 to 15 | Western | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | New England | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Middle States and Maryland | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Southern | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | North Central | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

It will be noticed that in 1913 all of the sections except the Western had some degrees which allowed no election, all subjects and amounts being prescribed. In 1922 only 3 per cent (three degrees) of the degrees in the Middle States and Maryland made such a requirement. As was noted before, this is less than 1 per cent of the total degrees considered.

The 1 to 3 range of election decreases in every section except the Western during the period. In both 1913 and 1922 this range was more popular with the colleges of the Middle States and Maryland than with those of any other section.

In the 4 to 6 unit range the Western, New England, and North Central sections decrease, while those of the Middle States and Maryland and Southern increase. Approximately one-third of the degrees of the Western section allow 4 to 6 units of election, while one-half of the degrees in the other territories allow it.

The 7 to 9 range increases considerably during the period in every section. The 10 to 12 and the 13 to 15 ranges also increase, but the number of cases is small in each instance.

Table 80 is summarized in Table 81, which shows the data and net changes for election allowances of more than six units for 1913 and 1922.

TABLE 81.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in per cents of degrees allowing six units or more of election of entrance subjects, for the years 1913 and 1922, all degrees being considered*

| Section | Per cents of degrees allowing in— | | Net change |
|---|---|---|---|
| | 1913 | 1922 | |
| Western | 24 | 42 | +18 |
| New England | 3 | 18 | +15 |
| Middle States and Maryland | 5 | 21 | +16 |
| Southern | 15 | 31 | +16 |
| North Central | 19 | 38 | +19 |

It will be remembered that the whole picture of election is not shown by these tables, because free margin is not shown in them.

The following graph shows the data from Table 80 for the years 1913 and 1922:

Graph 4 shows the trend toward a more liberal allowance in elective units. The slight decreases in area during the period are due to the increase in unrestricted election mentioned above.

Table 82 shows the medians of the various sections in number of units of election allowed for entrance:

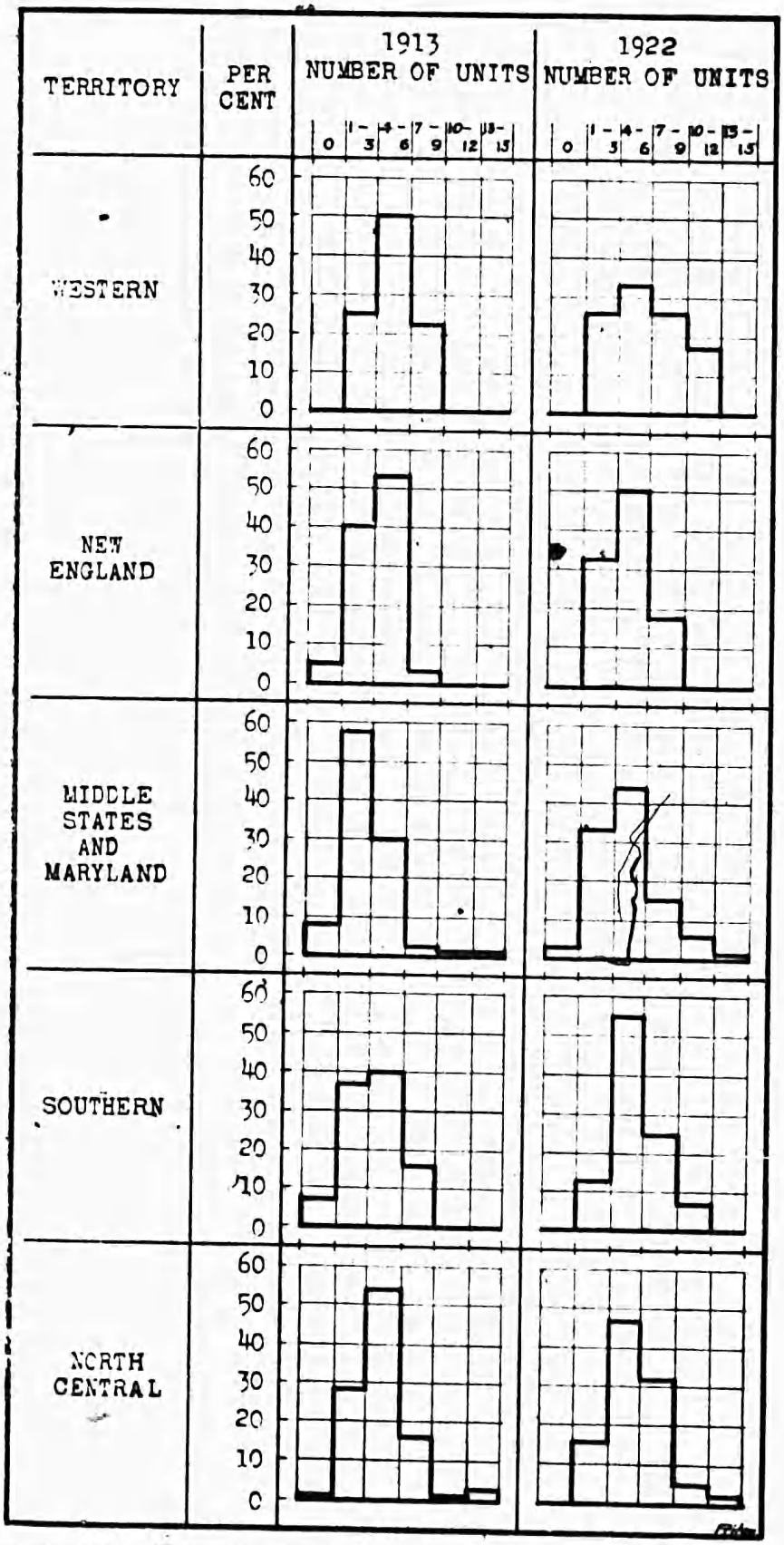


FIG. 4.—A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections in percentage of degrees allowing the various ranges of elective units for entrance, all degrees being considered

TABLE 82.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections, in medians of elective units allowed for entrance to college for the years 1913 and 1922, all degrees being considered*

| Section | Medians of number of elective units in— | |
|---|---|---|
| | 1913 | 1922 |
| Western | 4.5 | 4.5 |
| New England | 3.5 | 4 |
| Middle States and Maryland | 2.5 | 4 |
| Southern | 3.5 | 5.5 |
| North Central | 4.5 | 6 |
| General median | 3.5 | 5 |

In 1913 the Middle States and Maryland showed the lowest median, while the North Central and Western ranked the highest. In 1922 the North Central ranked highest, while the New England and Middle States and Maryland were tied for lowest place. The Western section shows a low median because so much of its election is "unrestricted," while the Southern States show a high median for exactly the opposite reason. All sections would show higher medians if the unrestricted elections were included in Table 82. This would be especially the case with the Western and North Central sections.

Table 83 shows a comparison of the five sections in percentage of degrees which allow unrestricted election, to any extent, of subjects for entrance:

TABLE 83.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections, in per cents of degrees which allow unrestricted election, in any amount, of subjects for entrance*

| Section | Per cents of total degrees allowing in year— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 |
| Western | 32 | 40 | 36 | 40 | 48 | 56 | 60 | 62 | 62 | 62 |
| New England | 2 | 2 | 13 | 13 | 13 | 15 | 15 | 17 | 17 | 17 |
| Middle States and Maryland | 8 | 8 | 7 | 9 | 20 | 10 | 11 | 17 | 17 | 21 |
| Southern | 4 | 4 | 6 | 7 | 7 | 6 | 7 | 5 | 7 | 7 |
| North Central | 15 | 17 | 20 | 19 | 21 | 25 | 27 | 29 | 33 | 35 |

Every section shows an increase in the percentage of degrees which allow a free margin of election for entrance. The Western and North Central sections lead the others, with increases of 30 and 20 per cent respectively. Generally speaking, the most popular allowances of unrestricted election in the five sections are as follows: New England, Middle States and Maryland, and Southern, 1 to 3 units; North Central, 4 to 6 units; and Western, a combination of 4 to 6 and 12 to 15 units.

Table 84 shows the medians of the various sections in number of unrestricted elective units allowed for entrance.[4]

TABLE 84.—*A comparison of the New England, Middle States and Maryland, Southern, North Central, and Western sections, in medians of unrestricted elective units allowed for entrance for the years 1913 and 1922, all degrees being considered*

| Section | Median of unrestricted election allowed in— | |
|---|---|---|
| | 1913 | 1922 |
| Western | 5.5 | 5.5 |
| New England | 0 | 0 |
| Middle States and Maryland | 3 | 4.5 |
| Southern | 2 | 3 |
| North Central | 5 | 4.5 |
| General median | 4 | 4 |

The median of the North Central section is the only one of the group to decrease during the period. The medians of the Southern and New England sections are not very reliable, because of the small number of cases. It will be remembered that the committee on college entrance requirements reporting to the National Education Association in 1911 recommended that a free margin of four units be allowed. The median for all of the degrees taken together is four units, but the average would be very much smaller.

## SUMMARY

The comparisons of this chapter are made on a basis of classification of the States and their colleges into the sections of New England, Middle States and Maryland, Southern, North Central, and Western.

There are no sectional differences in the amounts of English and mathematics required for entrance to college.

The New England colleges require social science slightly more frequently than do the colleges of the other sections.

Science is required for entrance to the A. B. degree relatively more frequently by the colleges of the Western and North Central and less frequently by those in the New England and Middle States and Maryland sections. The same is true in requirements of science for the B. S. degree. All sections except the Western require science more often for the B. S. than for the A. B. degree.

In 1913 Latin for the A. B. degree was required more than twice as frequently by colleges in New England, Southern, and Middle States and Maryland as it was by colleges in the North Central and Western sections. In 1922 more than one-half of the A. B. degrees

[4] New England is shown as zero because only one college is classed here.

in the three former sections required it for entrance, while in the North Central it was required by one-fifth and in the Western by one-sixteenth of the A. B. degrees.

Four units of Latin was, both in 1913 and 1922, the most popular prescription in all sections, although in the North Central in 1922 it ranked above the two-unit prescription by only 3 per cent.

Generally speaking, the various sections require about the same amount of unspecified foreign language for entrance to the A. B. degree. In 1913 the percentages vary from 44 to 68 and in 1922 from 45 to 66. The same is true of the requirement of unspecified foreign language for entrance to the B. S. degree, about two-thirds to three-fourths of the degrees in the various sections requiring it.

There has been a considerable increase in all sections in the percentage of degrees requiring no foreign language for entrance. The increases range from 8 to 33 per cent, being greatest in the Western and North Central sections and smallest in New England and the Middle States and Maryland. In 1922, in the Western States, 44 per cent of the total degrees required no foreign language for entrance, while only 10 per cent in New England required no language.

The North Central and Western sections show decreases during the period in percentage of colleges which require one foreign language for entrance, while the Southern and Middle States and Maryland show increases. New England remains constant. In 1922 the Southern section ranked the others, with 68 per cent of its degrees requiring one foreign language, while the Middle States and Maryland stood at the bottom, with 40 per cent of its degrees making a similar requirement.

All sections show decreases in percentage of degrees requiring two foreign languages for entrance, the decreases ranging from 11 per cent in New England to 25 per cent in the Southern States. In 1922, in New England and the Middle States and Maryland 35 per cent of the total degrees required two foreign languages for entrance, while only 8 per cent in the Southern and Western, and 5 per cent in the North Central made similar requirements.

All sections show decreases in the percentage of degrees requiring the higher ranges of amounts of specified units. Taking nine units as a dividing line, the increase in the percentage of degrees requiring nine units or less of prescribed subjects is from 17 per cent in the Southern to 31 per cent in New England. In 1922 the Western, with 70 per cent, and the North Central, with 64 per cent, rank the other sections in percentage of degrees which require nine units or less of prescribed subjects. The Middle States and Maryland stand at the bottom with 30 per cent, while the Southern is slightly higher, with 38 per cent. In New England 49 per cent of the total degrees in 1922 required nine units or less of prescribed subjects for entrance.

As prescribed units have decreased, elective units have increased. In 1913 the percentage of degrees allowing six units or more of electives varied from 3 per cent in New England to 19 per cent in the North Central States. In 1922 the range was from 18 per cent in New England to 42 per cent in the Western. The net increases are from 14 per cent in the Middle States and Maryland to 38 per cent in the Western States.

All sections show increases in percentage of degrees allowing unrestricted election of entrance subjects. In 1913 the percentage of degrees allowing free margin ranged from 2 per cent in New England to 32 per cent in the Western section. In 1922 the percentages were from 7 in the Southern to 62 in the Western. The net increases were from 3 per cent in the Southern to 30 per cent in the Western.

# CHAPTER VIII

## SUMMARY AND CONCLUSIONS

In this final chapter will be given brief general summaries of each of the preceding chapters. More detailed summaries are found at the end of each chapter.

In the earlier college days entrance was obtained only by passing examinations in the various subjects required. At the present time no fewer than 10 different methods of admission to college are in use in the various colleges of the United States. All colleges will admit on examination, and all but a very few will admit on certificate. Neither method has proved entirely satisfactory, and two new methods have recently appeared which bid fair to develop into the most important methods of the future. The first of these methods is the plan initiated at Harvard in 1911, and the second is the psychological examination plan initiated at Columbia in 1919. As a part of each method a complete set of data concerning the applicant—his record, aspirations, interests, etc.—as well as special recommendations, are required. The results of the use of these new types of admission methods have indicated that each has a high selective reliability, when the subsequent records of the students are considered.

In the early entrance requirements no quantitative measures were used. All of the subjects or facilities required were outlined and specified and were the same for all applicants, and no quantitative measures were needed. After some 200 years the elective system was introduced into American higher education, and with it came a complementary development of election in college entrance requirements. By 1900 this election in entrance requirements had increased to a great extent, due to the further expansion of the college curriculum, the rapid developments of the public high school, and the competition of the colleges for students. With this rapid development in election came the development of quantitative measures of elective subjects. The introduction and adoption of quantitative measures were largely due to (1) the increased amount of election which from its very nature had to be equated or measured, (2) the passing of the colleges from local to State, regional, or National significance, and (3) the influence of accrediting, examining, and standardizing bodies.

Previous to 1900, only 9 of more than 200 colleges in which data were sought used any quantitative measure of entrance subjects. Of these, only 4 used the present definition of the unit, which is roughly, "one-fourth of the full year's work in a secondary school." By 1922 only 18 of the 314 colleges studied were not using the unit as adopted by the various standardizing agencies. Nine of the eighteen were using other measures, and nine were using none. At the present time 15 units are almost universally required for entrance to college.

One-fourth of the 314 colleges made some change in degrees offered during the period under survey, but in total degrees there has been little net change. There is a slight increase in the tendency of the colleges to offer two degrees rather than one, three, or four. The A. B. and B. S. degrees are by far the most commonly awarded. There is a noticeable trend toward single admission requirements for entrance to all degrees a college may offer.

Practically all colleges require three units of English for entrance, and the past 10 years have witnessed little change in this requirement, though there is an increased tendency for the colleges to accept four units of English.

Nearly all colleges require mathematics for entrance. During the decade there has been a decided trend away from 2.5 units toward a 2-unit requirement in this subject. This is due to the reduction of the requirement in algebra from 1.5 units to 1 unit, and to the disappearance of solid geometry as a prescribed subject. The usual requirements in mathematics are algebra 1 unit and plane geometry 1 unit.

There have been more changes in the requirements in foreign language during the past 10 years than in all of the other required entrance subjects combined. Not only has the number of units required decreased rapidly, but the number of degrees requiring no language at all for entrance has increased from 11 per cent in 1913 to 30 per cent in 1922. The A. B. degree requires more foreign language than any of the other degrees. The number of degrees requiring two languages for entrance decreased from 31 per cent in 1913 to 13 per cent in 1922. This decrease is greater in the B. S. than in the A. B. requirement.

Nearly two-thirds of all foreign-language requirements are unspecified, i. e., they may be satisfied by any foreign language named as acceptable. The A. B. degree specifies its requirement in foreign language more frequently than the B. S. degree does.

The percentage of total degrees not requiring Latin increased from 58 in 1913 to 76 in 1922. The four-unit requirement is still the most popular prescription in Latin. Latin is rarely prescribed for

entrance to the B. S. degree. German and French are rarely prescribed at all. About 10 per cent of the degrees required Greek in 1913, but in 1922 only 2 per cent required it.

There is a strong tendency toward the acceptance of not fewer than two units of any foreign language. The maximum credit allowed has been gradually increased, so that now almost any college would credit Latin, French, or German to four units.

Spanish has more than doubled in the number of times mentioned as being acceptable, during the period. It is as yet hardly accredited as much as French or German, as only about one-half of the colleges which accept it accept it to only two units. Other languages are mentioned occasionally as being acceptable.

Three-fourths of the degrees require social science for entrance, the usual requirement being one unit. Fifty-seven per cent of the degrees in 1922 did not specify what branch of social science shall be presented. Of those which did specify, ancient history, American history, and general history are mentioned most frequently and in that order relatively. Social-science requirements have changed but little during the decade.

About one-half of the degrees require science for entrance, the usual amount required being one unit. The B. S. degree requires science more frequently than the other degrees do. Only rarely is a branch of science specified. When specified, it is usually physics. General science is increasingly mentioned as being acceptable. There have been few changes in the requirements in science during the period under study.

The movement for the present variety of commercial and vocational subjects began about 1900. In spite of stiff opposition, nearly all of the subjects now offered as such appeared by 1910. The number of colleges acepting these subjects has increased both rapidly and steadily. In 1922 there were 111 different subjects mentioned as acceptable in the catalogues of 273 colleges. About 50 of these had appeared since 1900.

Nearly one-half of the colleges studied allow college credit for advanced high-school work. This credit is allowed after examination, and the amount is usually discounted to about one-half of its face value. Foreign language and mathematics are the subjects in which excess credit is most frequently allowed.

Age and moral requirements early became a part of college entrance requirements, the age requirement because, since no public school system trained for college, a boy might conceivably enter college at 12 or so, and the moral requirement because early colleges trained largely for the ministry. Later, physical requirements were added; and still more recently, intellectual requirements. In 1922

one-fourth of the colleges specified minimum ages at which entrance was allowed. These requirements are of little or no value, since the usual specification is 16 years, and no pupil beginning at 6 and proceeding normally can complete the secondary school before he is 18 or so. There seems to be a developing feeling for a maximum rather than a minimum age requirement.

Over one-half of the colleges definitely require testimonials in regard to the applicant's moral character. The usual formal requirement is giving way to a "personal" recommendation, in which ability, capacity, aspirations, interests, leadership, etc., are predominant elements.

In 1922 only 11 per cent of the 314 colleges made any requirement of physical fitness. However, with the present tendency toward physical education and the necessity of selecting more carefully from candidates for admission, the physical requirement promises to be of real importance.

There is a very definite movement to select from the field of candidates only those who are considered the "best risks." The method most commonly used is to take only those who are in the upper part of the high-school graduating class, those who have made better than passing marks, etc. Eleven per cent of the colleges now use some such procedure as against one per cent in 1913. This field promises the most significant developments in the articulation of high school and college during the next few years.

Enrollment in liberal-arts colleges has increased over 500 per cent since 1890. The resources of the colleges have also increased greatly but not in proportion to the number of students. The result is that colleges are crowded and are beginning to limit the size of entering classes. A number of methods are being used to select applicants, among which such elements as interests, abilities, capacities, preparations, intellectual records, ambitions, and the like are receiving most attention. Limitation promises to become the rule rather than the exception within a very few years.

Flexibility of entrance requirements may be increased by allowing more election to the applicant, both in subjects and amounts of subjects by admitting with conditions, or by failing to exact the published requirements.

Since 1913 there has been a decided trend away from the requirements of the larger numbers of prescribed units toward the smaller, and conversely the number of degrees allowing election has increased. A new allowance of unrestricted election has recently appeared, and, in 1922, 27 per cent of the colleges studied were permitting such election. The requirements for the B. S. degree are slightly more flexible than those for the A. B.

The decade has recorded a startling movement toward the diminution and abolishment of entrance conditions. In 1913 of 211 colleges, 4 per cent would permit no conditions; and in 1922, of 232 colleges, 40 per cent would not recognize them. One unit is now allowed twice as often as two units. Probably the greatest single factor responsible for this trend is the increased enrollments of the colleges.

It is the consensus of opinion of those who are in touch with the situation that colleges exact pretty strictly their published entrance requirements. The facts that entrance requirements are much more flexible now than formerly, and that college enrollments have reversed the situation which was largely responsible for liberality in interpretation of college entrance requirements, have been the main causes for the improvement of the practice of the colleges in this respect.

For purposes of comparison the States and their colleges were grouped into the five sections of New England, Middle States and Maryland, Southern, North Central, and Western.

There are no differences in amounts of English and mathematics required in the different sections, and very little in the social science required. New England requires slightly more of the latter than the other sections do. Science is required for entrance relatively more frequently by the colleges of the Western and North Central sections and less frequently by those in New England and the Middle States and Maryland.

In 1913 Latin for the A. B. degree was required more than twice as often by colleges in New England, the Southern, and the Middle States and Maryland as it was by colleges in the North Central and Western sections. In 1922 more than one-half of the A. B. degrees in the three former sections required it for entrance, while in the North Central it was required by one-fifth and in the Western by one-sixteenth of the A. B. degrees. Four units of Latin was, both in 1913 and 1922, the most popular prescription in all territories, although in the North Central in 1922 it ranked above the two-unit prescription by only 3 per cent.

Generally speaking, the various sections require about the same amount of unspecified foreign language for entrance to the A. B. and the B. S. degree. The increase in percentage of degrees not requiring a foreign language ranges from 8 to 33, being greatest in the Western and North Central sections and smallest in New England and the Middle States and Maryland. In 1922, in the Western States, 44 per cent of the total degrees require a foreign language for entrance, while only 10 per cent in New England did not require any.

In 1922 the Southern section ranked the others, with 68 per cent of its degrees requiring one foreign language, while the Middle States and Maryland stood lowest, with 40 per cent of its degrees making a similar requirement. In 1922, in New England and the Middle States and Maryland, 35 per cent of the total degrees required two foreign languages for entrance, while only 8 per cent in the Southern and Western and 5 per cent in the North Central section made similar requirements.

All sections show decreases in the percentage of degrees requiring the higher ranges of specified units. In 1922, 70 per cent of the Western and 64 per cent of the North Central degrees required nine units or less of prescribed subjects. The requirements in the other sections were New England 49 per cent, Southern 38 per cent, and Middle States and Maryland 30 per cent.

In 1922 the percentage of degrees allowing more than six units of election in entrance-required subjects ranged from 18 per cent in New England to 42 per cent in the Western States. All sections showed substantial increases during the decade.

In 1922, in the Southern section, 7 per cent of the degrees allowed unrestricted election, while the Western section stood at the top, with 62 per cent of its degrees allowing it. The net increases during the decade ranged from 3 per cent in the Southern to 30 per cent in the Western.

In a word the entrance requirements of the Western and North Central States are much more flexible than those of the other three sections.

## CONCLUSION

In brief, the whole trend of college entrance requirements is toward a more liberal academic requirement and a more strict personal requirement. It would seem, on the basis of the facts presented, that college entrance requirements are liberal so far as academic requirements are concerned. This may be suggested in two ways: First, that an average high school can meet the academic demands of an average college can hardly be doubted; and second, the fact that some other method than those dependent upon academic requirements entirely must be used. No one doubts that certain college courses demand specific preparation, but colleges are realizing as never before that there are a great many qualities desirable in students which are not to be measured in terms of more or less unreliable and incomparable teachers' estimates or marks, and that entrance examinations, although possessing many valuable features, are not as satisfactory as might be desired. This is especially the case now, because many more applicants than can be ad-

mitted can present the necessary credentials. The differentiation of college curricula demands differentiation of preparation, and since differentiation will not decrease but probably increase, there is little chance of tightening up on the academic elements of entrance requirements.

On the other hand, while heretofore the published entrance requirements have been looked upon largely as a maximum, increased enrollments of colleges are causing such requirements to be regarded as a minimum, because many more applicants than can be admitted can present them. Since these academic requirements can not be raised, because of the differentiation mentioned in the above paragraph, some method must be devised whereby the best of the applicants who are able to offer full academic requirements can be selected. For these purposes the psychological examination, in connection with a rigid evaluation of personal qualifications, seems best adapted. Originally college entrance requirements were concerned only with "preparation." The present times are just entering into a period in which "preparation" will be overshadowed, though never entirely abolished of course by the more basic elements of quality, capacity, or ability, including physical, mental, and moral fitness and attitude, and including such characteristics as ambition, interest, industry, application, diligence, willingness, etc.

In conclusion, the flexibility of college entrance requirements implies provision for several elements which the modern educator deems of undisputed value. In brief these are (1) a recognition of mutual dependence and obligation between the institutions of secondary and higher education, (2) provision for individual differences, (3) exploration for educational and vocational guidance, (4) experimentation in curricula, courses of study, etc., and (5) a democracy in secondary educational affairs rather than an undemocratic system, half of which prepares for college and half of which immediately "prepares for life."

# APPENDIX

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[1] The literature on college entrance requirements is so voluminous that it is impossible to present here any extended bibliography. Consequently only the more general and most recent references are listed. A complete bibliography up to 1914 will be found in Bulletin No. 32, 1914, United States Bureau of Education.

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## THE COLLEGES USED IN THIS STUDY

Alabama:
- University of Alabama.

Arizona:
- University of Arizona.

California:
- Leland Stanford, jr., University.
- University of Southern California.
- University of California.
- Occidental College.
- Whittier College.
- Mills College.
- University of Redlands.
- Pomona College.

Colorado:
- University of Colorado.
- University of Denver.
- Colorado Agricultural College.
- Colorado College.

Connecticut:
- Trinity College.
- Yale University.

Delaware:
- University of Delaware.

District of Columbia:
- Catholic University of America.
- Georgetown University.
- Trinity College.
- George Washington University.
- Howard University.

Florida:
- Florida State College for Women.
- University of Florida.
- John B. Stetson University.

Georgia:
- Agnes Scott College.
- Mercer University.
- Emory University.
- University of Georgia.

Idaho:
- University of Idaho.

Illinois:
- Augustana College.
- Illinois College.
- Illinois Woman's College.
- Knox College.
- Lombard College.
- Northwestern University.
- Rockford College.
- University of Illinois.

Illinois—Continued.
- Carthage College.
- Illinois Wesleyan University.
- James Millikin University.
- Lake Forest College.
- Monmouth College.
- Northwestern College.
- Wheaton College.
- University of Chicago.

Indiana:
- Butler College.
- Earlham College.
- Indiana University.
- University of Notre Dame.
- Wabash College.
- De Pauw University.
- Franklin College.
- Hanover College.
- St. Mary's College.

Iowa:
- Coe College.
- Cornell College.
- Grinnell College.
- Iowa Wesleyan College.
- Morningside College.
- Parsons College.
- State University of Iowa.
- Upper Iowa University.
- Columbia College.
- Drake University.
- Des Moines University.
- Luther College.
- Mount St. Joseph College.
- Penn College.
- Simpson College.
- University of Dubuque.

Kansas:
- Baker University.
- Friends University.
- McPherson College.
- Ottawa University.
- College of Emporia.
- Bethany College.
- Kansas State Agricultural College.
- Fairmount College.
- Southwestern College.
- University of Kansas.
- St. Mary's College.
- Washburn College.

Kentucky:
- Central University of Kentucky.
- Transylvania College.
- University of Kentucky.
- Georgetown College.
- University of Louisville.

Louisiana:
- Louisiana State University.
- Newcomb College.
- Tulane University.

Maine:
- Bates College.
- Colby College.
- Bowdoin College.
- University of Maine.

Maryland:
- Goucher College.
- University of Maryland.
- Mount St. Mary's College.
- Washington College.
- Johns Hopkins University.
- Loyola College.
- St. John's College.
- Western Maryland College.

Massachusetts:
- Amherst College.
- Clarke University.
- Mount Holyoke College.
- Radcliffe College.
- Tufts College.
- Wellesley College.
- Worcester Polytechnic Institute.
- Boston University.
- Harvard College.
- Smith College.
- Boston College.
- Holy Cross College.
- Williams College.

Michigan:
- Adrian College.
- Alma College.
- Hope College.
- Michigan Agricultural College.
- University of Michigan.
- Albion College.
- Hillsdale College.
- Kalamazoo College.
- Olivet College.
- University of Detroit.

Minnesota:
- Carleton College.
- College of St. Teresa.

Minnesota—Continued.
- Gustavus Adolphus College.
- Macalester College.
- University of Minnesota.
- College of St. Catherine.
- Hamline University.
- St. Olaf College.

Mississippi:
- Millsaps College.
- University of Mississippi.

Missouri:
- Central College.
- Lindenwood College.
- Missouri Wesleyan College.
- St. Louis University.
- University of Missouri.
- Westminster College.
- Drury College.
- Missouri Valley College.
- Park College.
- Tarkio University.
- Washington University.
- William Jewell College.

Montana:
- University of Montana.

Nebraska:
- Creighton University.
- Doane University.
- Hastings College.
- Nebraska Wesleyan University.
- University of Nebraska.
- Cotner University.
- Grand Island College.
- Union College.
- York College.

Nevada:
- University of Nevada.

New Hampshire:
- Dartmouth College.
- New Hampshire College of Agriculture and Mechanic Arts.

New Jersey:
- College of St. Elizabeth.
- Rutgers College.
- Princeton University.

New Mexico:
- University of New Mexico.
- New Mexico College of Agriculture and Mechanic Arts.

New York:
- Adelphi College.
- Barnard College.

New York—Continued.
- Colgate University.
- College of New Rochelle.
- Cornell University.
- Fordham University.
- Hobart College.
- Manhattan College.
- New York University.
- St. John's College.
- St. Stephens College.
- Union University.
- Vassar College.
- William Smith College.
- Alfred University.
- Canisius College.
- College of the City of New York.
- Columbia College.
- Elmira College.
- Hamilton College.
- Hunter College.
- Niagara University.
- Rensselaer Polytechnic Institute.
- St. Lawrence University.
- Syracuse University.
- University of Rochester.
- Wells College.

North Carolina:
- Davidson College.
- North Carolina College for Women.
- University of North Carolina.
- Meredith College.
- Trinity College.
- Wake Forest College.

North Dakota:
- North Dakota Agricultural College.
- Jamestown College.
- Fargo College.
- University of North Dakota.

Ohio:
- Baldwin Wallace College.
- College of Wooster.
- Denison University.
- Hiram College.
- Lake Erie College.
- Miami University.
- Mount Union College.
- Oberlin College.
- Ohio University.
- Otterbein University.
- St. Ignatius College.

Ohio—Continued.
- University of Toledo.
- Western Reserve University.
- Capital University.
- Defiance College.
- Heidelberg University.
- Kenyon College.
- Marietta College.
- Municipal University of Akron.
- Muskingum College.
- Ohio State University.
- Ohio Wesleyan University.
- Shephardson College.
- University of Cincinnati.
- Western College for Women.
- Wittenberg College.

Oklahoma:
- Oklahoma College for Women.
- University of Oklahoma.
- Phillips University.
- Oklahoma Agricultural and Mechanical College.

Oregon:
- Reed College.
- University of Oregon.
- Pacific University.
- Willamette University.

Pennsylvania:
- Allegheny College.
- Bryn Mawr College.
- Dickinson College.
- Gettysburg College.
- Lafayette College.
- Lehigh University.
- Pennsylvania State College.
- Swarthmore College.
- University of Pennsylvania.
- Ursinus College.
- Washington and Jefferson College.
- Westminister College.
- Augustinian College.
- Bucknell University.
- Franklin and Marshall College.
- Haverford College.
- Lebanon Valley College.
- Muhlenburg College.
- Susquehanna University.
- Temple University.
- University of Pittsburgh.
- Wilson College.
- St. Vincent College.

Rhode Island:
- Brown University.

South Carolina:
- College of Charleston.
- University of South Carolina.
- Converse College.
- Wofford College.

South Dakota:
- Dakota Wesleyan University.
- University of South Dakota.
- Yankton College.
- Huron College.
- South Dakota College of Agriculture and Mechanic Arts.

Tennessee:
- Southwestern Presbyterian University.
- University of Chattanooga.
- University of the South.
- Maryville College.
- University of Tennessee.
- Vanderbilt University.

Texas:
- Baylor University.
- Southwestern University.
- University of Texas.
- Rice Institute.
- Southern Methodist University.
- Trinity University.

Utah:
- University of Utah.
- Agricultural College of Utah.

Vermont:
- Middlebury College.
- University of Vermont.

Virginia:
- College of William and Mary.
- Hampden-Sidney College.
- Randolph-Macon Woman's College.
- University of Richmond.
- University of Virginia.
- Emory and Henry College.
- Randolph-Macon College.
- Roanoke College.
- Sweet Briar College.
- Washington and Lee University

Washington:
- State College of Washington.
- Whitman College.
- University of Washington.

West Virginia:
- Bethany College.
- West Virginia University.

Wisconsin:
- Beloit College.
- Carroll College.
- Marquette University.
- Milwaukee-Downer College.
- Ripon College.
- University of Wisconsin.
- Campion College.
- Lawrence College.
- Milton College.
- Northwestern College.
- St. Clara College.

Wyoming:
- University of Wyoming.

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